1. 職員研究発表一覧［原著論文］

【平成13年度】

**co-researcher outside the institute*

[プロジェクト研究]

[（1）放射線先進医療研究]

[高度画像診断技術の研究開発　イ）4次元CT装置の開発]

1.Masahiro Endo, Takanori Tsunoo, Susumu Kandatsu, Shuji Tanada, Hiroshi Aradate*, Yasuo Saito*, Nobuyuki Nakamori*, Katsuya Yoshida*: Effect of scattered radiation on image noise in cone beam CT, Medical Physics, 28(4), 469-474, 2001

[高度画像診断技術の研究開発　ロ）次世代PET装置の開発]

1.Tomoyuki Hasegawa, Christian Michel*, Hideo Murayama, Taiga Yamaya, Hajime Matsuura*, Shuji Tanada: Monte Carlo simulation for PET scanners and shields., Japanese Journal of Medical Physics, 21(3), 174-186, 2001

2.山谷　泰賀、小尾　高史*、山口　雅浩*、喜多　紘一*、大山　永昭*、長谷川　智之、羽石　秀昭*、村山　秀雄: Depth-of-Interaction 情報を用いた代数的な２次元ＰＥＴ画像再構成、医学物理、21(4)、223-232、2001

[重粒子線がん治療臨床試験]

1.Kazuo Arai*, Takahiko Shibahara*, Nobuharu Yamamoto, Takashi Yakushiji*, Chihaya Tanaka*, Hiroyasu Noma*: Frequent allelic loss/imbalance on the short arm of chromosome 3 in tongue cancer. , Bulletin of Tokyo Dental College, 42, 151-157, 2001

2.Takashi Yakushiji*, Hiroyasu Noma*, Takahiko Shibahara*, Kazuo Arai*, Nobuharu Yamamoto, Chihaya Tanaka*, Katsuhiro Uzawa*, Hideki Tanzawa*: Analysis of a role for p16/CDKN2 expression and methylation patterns in Human Oral squamous cell carcinoma., Bulletin of Tokyo Dental College, 42, 159-168, 2001

3.Nobuharu Yamamoto, Hiroyasu Noma*, Takahiko Shibahara*: Allelic imbalance on the long arm of chromosome 21 in human oral squamous cell carcinoma: Relationship between allelic imbalances (LOH and MSI) and clinicopathologic features., Bulletin of Tokyo Dental College, 42, 211-223, 2001

4.山本　信治、薬師寺　孝*、鵜澤　一弘*、柴原　孝彦*、丹沢　秀樹*、野間　弘康*: 口腔扁平上皮癌における癌抑制遺伝子 ANA 遺伝子異常の解析、頭頸部腫瘍、27、225-231、2001

5.溝江　純悦、辻井　博彦、今野　正義*、海老原　敏*: 腺癌系腫瘍に対する炭素イオン治療の途中解析、頭頸部腫瘍、28、192-197、2002

6.Hideki Nishimura*, Tadaaki Miyamoto, Naoyoshi Yamamoto, Masashi Kotou, Kazurou Sugimura*, Hirohiko Tsujii: Assessment of pulmonary rection after corbon ion irradiation in the patients with stage I non-small cell lung cancer, International Journal of Radiation Oncology Biology Physics, 51(3), 358-359, 2001

7.小藤　昌志、辻井　博彦: 粒子線治療の将来、癌の臨床、47、95-98、2001

8.矢島　安朝*、野間　弘康*、横尾　恵子*、山本　信治、野村　武史*、畑田　憲一*、井上　孝*: 口腔扁平上皮癌周囲にひろがるヨード不染部のテロメラーゼ活性定量と組織学的所見、日本口腔外科学会雑誌、47、593-599、2001

9.松岡　祥介*、辻井　博彦: 重イオン線治療の臨床成績と展望、医学のあゆみ、196、775-782、2001

10.宮本　忠昭、山本　直敬、小藤　昌志、西村　英輝*、辻井　博彦、藤澤　武彦*: 重粒子線治療、日本外科学会雑誌、103(2)、250-255、2002

11.白水　敬昌*、堀田　文雄*、河原　康*、宮地　斉*、長谷川　安都佐、水島　睦枝*: 軟部組織浸潤を伴った下顎骨好酸球肉芽腫の 1 例、日本口腔科学会雑誌、50(5)、299-305、2001

12. Hiroaki Onaya*, Yuji Itai*, Dai Yoshioka*, Takashi Akagi, Mamoru Niitsu*, Toshiyuki Okumura*, Yasuyuki Akine*, Yasushi Matuzaki*, Masahiro Doi, Hirohiko Tsujii: Changes in the liver parenchyma after proton beam radiotherapy :evaluatiion with MR imaging, Magnetic Resonance Imaging, 18, 707-714, 2001

13. Hiroaki Onaya*, Yuji Itai*, Takashi Akagi, Dai Yoshioka*, Toshiyuki Okumura*, Yasuyuki Akine*, Hiroshi Tsuji, Hirohiko Tsujii: Recurrent hepatocellular carcinma versus radiation-induced hepatic injury-differential diagnosis with MR imaging, Magnetic Resonance Imaging, 19, 41-46, 2001

14.山本　直敬*、宮本　忠昭、小藤　昌志、西村　英輝*、藤澤　武彦*: 肺門型肺癌に対する重粒子線治療、気管支学、23(8)、712-720、2001

[（2）放射線感受性遺伝子研究]

[放射線感受性遺伝子研究]

1.Yoshifumi Matsui, Yukihiro Tsuchida*, Peter Keng*: Effects of p53 mutations on cellular sensitivity to ionizing radiation., American Journal of Clinical Oncology, 24, 486-490, 2001

2.Stefano Bonassi*, Michael Fenech*, Cecilia Lando*, Yi Ping Lin*, Marcello Ceppi*, Wushou Peter Chang*, Nina Holland*, Micheline Kirsh Volders*, Errol Zeiger*, Sadayuki Ban: Human MicroNucleus Project:

International Database Comparison for Results With Cytokinesis-Block Micronucleus Assay in Human Lymphocytes: I. Effect of Laboratory Protocol, Scoring Criteria, and Host Factors on the Frequency of Micronuclei, Environmental and Molecular Mutagenesis, 37, 31-45, 2001

3.Sadayuki Ban, Tomoko Shinohara*, Yuko Hirai*, Yukie Moritaku*, John B. Cologne*, Donaldo Macphee*: Chromosomal instability in BRCA1- or BRCA2-defective human cancer cells detected by spontaneous micronucleus assay, Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 474, 15-23, 2001

4.山形　周子*、矢部　文顕*、平塚　健太郎*、岡本　史樹*、本村　幸子*、後藤　周*、瓜田　泰久*、岩川　眞由美、金子　道夫*: １１番染色体短腕欠失を認めた先天角膜混濁、無虹彩の１例、眼科臨床医報、95、268-271、2001

5.Yan Wang*, Yuichi Michikawa, Con Mallidis*, Yan Bai*, Linda Woodhouse*, Kevin Yarasheski*, Carol Miller*, Valerie Askanas*, King Engel*, Shalender Bhasin*, Giuseppe Attardi*: Muscle-specific mutations accumulate with aging in critical human mtDNA control sites for replication., Proceedings of the National Academy of Sciences of the United States of America, 98, 4022-4027, 2001

6.工藤　寿美*、堀　哲夫*、金子　道夫*、岩川　眞由美、池袋　賢一*、雨海　照祥*、瓜田　泰久*、井上　成一郎*、的場　公男*、高田　泰次*、大塚　雅昭*、湯沢　賢治*、深尾　立*、遠藤　隆志*、中山　凱夫*、松井　陽*、垣内　祥宏*、幸田　幸直*、窪田　敬一*、河原崎　秀雄*: 生体部分肝移植手術後に大量の乳糜腹水を認めた１例、今日の移植、14、104-105、2001

[（3）放射線人体影響研究]

[宇宙放射線による生体影響と防護に関する研究]

1.Tsvetan Dachev*, Plamen Dimitrov*, Jacques Lemaire*, Ghislain Gregoire*, Mathias Cyamukungu*, H Schmitz*, Kazunobu Fujitaka, Yukio Uchihori, Hisashi Kitamura, Gunther Reitz*, Rudolf Beaujean*, Vladislav Petrov*, Vyacheslav Shurshakov*, Victor Benghin*: Calibration Results Obtained With Liulin-4 Type Dosimeters, Advances in Space Research, 30, 917-925, 2002

2.Yunfeng Zhao*, Yi Xue*, Terry Oberley*, Shumei Lin*, Hsiuchuan Yen*, Hideyuki Majima*, Judy Hines*, Daret Clair*: Overexpression of MnSOD suppresses tumor formation by modulation of AP-1 signaling in a multistage skin carcinogenesis model, Cancer Research, 61, 6082-6088, 2001

3.Satoshi Fukuda, Haruzo Iida: Incidence of pyometra in colony-raised beagle dogs, Experimental Animals, 50, 325-329, 2001

4.Hiroshi Yasuda: Conservative evaluation of space radiation dose equivalent using the glow curve of 7LiF:Mg,Ti (TLD700), Health Physics, 80, 576-582, 2001

5.Susumu Tanaka*, Hiroshi Nakajima*, Yukio Sakamoto*, Takashi Nakamura, Masashi Takada, Hideo Hirayama*, Yoshitomo Uwamino*, Kazuo Shin*: An experimental study on radiation streaming through a labyrinth in a proton accelerator facility of intermediate energy., Health Physics, 81(4), 406-418, 2001

6.Masao Suzuki, Chang Qing Piao*, Hongning Zhou*, Tom K Hei*: Karyotype analysis of tumorigenic human bronchial epithelial cellstransformed by chrysolite asbestos using chemically induced prematurechromosome condensation technique., International Journal of Molecular Medicine, 8, 43-47, 2001

7.保田　浩志: 国際宇宙ステーション生物実験に適した簡便な線量測定評価手法の提案、宇宙航空環境医学、38、1-7、2001

8.Hiroshi Yasuda, Kazunobu Fujitaka: Cosmic radiation protection dosimetry using the Electronic Personal Dosemeter (EPD) in selected international flights, Journal of Radiation Research, 42, 57-68, 2001

9.Hiroshi Yasuda: Glow peak stability in 6LiF:Mg,Ti (TLD-600) exposed to Fe-ion beam, Journal of Radiation Research, 42, 69-78, 2001

10.安田　仲宏、久下　謙一*、小林　孝治*、青木　直和*、長谷川　朗*、熊谷　宏*: 原子核乾板の素粒子・原子核物理学での利用と多層カラー乾板の開発、日本写真学会誌、64(2)、87-91、2001

11. Haruzo Iida, Satoshi Fukuda: Age-related changes in bone mineral density, cross sectional area and strength at different skeletal site in male rat, Journal of Veterinary Medical Science, 64, 29-34, 2002

12. Shingo Taniguchi*, Masashi Takada, Takashi Nakamura: Development of multi-moderator neutron spectrometer using a pair of 6Li and 7Li glass scintillators., Nuclear Instruments & Methods in Physics Research Section A, 460, 368-373, 2001

13. Masashi Takada, Shingo Taniguchi*, Takashi Nakamura, Noriaki Nakao*, Yoshitomo Uwamino*, Tokushi Shibata*, Kazunobu Fujitaka: Neutron Spectrometry in a Mixed Field of Neutron and Proton with a Phoswich Neutron Detector. Part.I Response Functions for Photons and Neutrons of the Phoswich Neutron Detector, Nuclear Instruments & Methods in Physics Research Section A, 465, 498-511, 2001

14. Masashi Takada, Shingo Taniguchi*, Takashi Nakamura, Kazunobu Fujitaka: Neutron Spectrometry in a Mixed Field of Neutron and Proton with a Phoswich Neutron Detector. Part II. Application of the Phoswich Neutron Detector to Neutron Spectrum Measurements., Nuclear Instruments & Methods in Physics Research Section A, 465, 512-524, 2001

15. Tatsumi Koi, Yasushi Muraki*, Kimiaki Masuda*, Yutaka Matsubara*, Takashi Sako*, Takuya Murata*, Harufumi Tsuchiya*, Shoichi Shibata*, Yoshinori Munakata*, Kichiji Hatanaka*, Tomotsugu Wakasa*, Hideyuki

Sakai*: Attenuation of neutrons in the atmosphere and a thick carbon target , Nuclear Instruments & Methods in Physics Research Section A, 469, 63-69, 2001

16. Masashi Takada, Shingo Taniguchi*, Takashi Nakamura, Noriaki Nakao*, Yoshitomo Uwamino*, Tokushi Shibata*, Kazunobu Fujitaka: Characteristics of a Phoswich Detector to Measure Neutro Spectrum in a Mixed Field of Neutrons and Charged Particles., Nuclear Instruments & Methods in Physics Research Section A, 476, 332-336, 2002

17. Kouichi Ogura*, Masaharu Asano*, Nakahiro Yasuda, Masaru Yoshida*: Properties of TNF-1 track etch detector, Nuclear Instruments & Methods in Physics Research Section B, 185, 222-227, 2001

18. Atsuko Ichikawa*, Nakahiro Yasuda: Study of double-strangeness nuclei with hybrid-emulsion method (KEK-PS E373), Nuclear Physics A, 691, 246-249, 2001

19. Hiroshi Yasuda, Masao Suzuki, Koichi Ando, Kazunobu Fujitaka: Simulation of the low-earth-orbit dose rates using secondary radiations from HZE particles in NIRS-HIMAC, Physica Medica, 17, 135-139, 2001

20. Hiroshi Yasuda, Tatsuto Komiyama*, Kazunobu Fujitaka: Probability of hippocampus cell hits by high-LET space radiation in a low-Earth-orbit mission (STS-91), Physica Medica, 17, 168-171, 2001

21. Takahashi Takahashi*, Nakahiro Yasuda: Observation of a (Lambda Lambda)He-6 double hypernucleus, Physical Review Letters, 87, 212502-1-212502-5, 2001

22. Hongning Zhou*, Masao Suzuki, Gerhard Randers Pehrson*, Diane Vannais*, Gang Chen*, James E. Trosko*, Charles Waldren*, Tom K Hei*: Radiation risk to low fluence of alfa particles may be greater than wa thought, Proceedings of the National Academy of Sciences of the United States of America, 98, 14410-14415, 2001

23. Kenichi Kuge*, Nakahiro Yasuda, Hiroshi Kumagai*, Kazuma Nakazawa*, Naokazu Aoki*, Akira Hasegawa*: Detection of colored tracks of heavy ion particles using photographic color film, Radiation Measurements, 34, 203-206, 2001

24. Alexandar Golovchenko*, Jure Skvarc*, Nakahiro Yasuda, Rodomir Ilic*, S Tretyakova*, Kouichi Ogura*, Takeshi Murakami: Total charge-changing and partial cross-section measurements in the reaction of 110 MeV/u 12C with paraffin, Radiation Measurements, 34, 297-300, 2001

25. Nakahiro Yasuda, Kazuyuki Uchikawa*, Kuniaki Amemiya*, Nanae Watanabe*, Hiroyuki Takahashi*, Masaharu Nakazawa*, Mikio Yamamoto, Kouichi Ogura*: Estimation of the latent track size of CR-39 using atomic force microscope, Radiation Measurements, 34, 45-49, 2001

26.A Saad*, S Atwa*, Nakahiro Yasuda, Masami Fujii*: Study on the structure of latent tracks in CR-39 and SR-90 track detectors by FT-IR spectroscopy, Radiation Measurements, 34, 51-54, 2001

27. Shingo Taniguchi*, Masashi Takada, Takashi Nakamura: Development of a new type of multi-moderator neutron spectrometer, Radiation Physics and Chemistry, 61(3/6), 523-526, 2001

28. Masashi Takada, Hiroshi Yamaguchi, Yukio Uchihori, Hisashi Kitamura, Kazunobu Fujitaka: Differenetial Dosimetry in a Neutron-Proton Mixed Field with Low-Pressure Proportional Counters., Radiation Protection Dosimetry, 8(97), 213-222, 2001

29. Hiroshi Yasuda, Kazunobu Fujitaka: Responses of TLD-BeO:Na (UD-170A) to heavy ions and space radiation, Radiation Protection Dosimetry, 94, 275-280, 2001

30. Hiroshi Yasuda, Ikuo Kobayashi*: Optically stimulated luminescence from Al2O3:C irradiated with relativistic heavy ions, Radiation Protection Dosimetry, 95, 339-343, 2001

31. Masao Suzuki, Chang Qing Piao*, Eric J. Hall*, Tom K Hei*: Cell killing and chromatid damage in primary human bronchial epithelial cells irradiated with accelerated 56Fe ions., Radiation Research, 155, 432-439, 2001

32. Hiroshi Yasuda: Responses of Direct Ion Storage dosimeter (DIS-1) to heavy charged particles, Radiation Research, 156, 805-808, 2001

[低線量放射線の生体影響に関する総合的研究]

1.Naoko Watanabe*, Eriko Okochi*, Yoshiya Shimada, Toshikazu Ushijima*: Single nucleotide instability without microsatellite instability in rat mammary carcinomas., Cancer Research, 61, 2632-2640, 2001

2.Fujiko Masui*, Manabu Matsuda*, Yasuhisa Akazome*, Tatsuhiko Imaoka, Takao Mori*: Prevention of neonatal estrogen imprinting by vitamin A as indicated by estrogen receptor expression in the mouse vagina., Cell and Tissue Research, 306, 441-447, 2001

3.Mayumi Nishimura, Shizuko Kakinuma, Shigeharu Wakana*, Aya Mukaigawara*, Kazuei Mita, Toshihiko Sado*, Toshiaki Ogiu, Yoshiya Shimada: Reduced sensitivity to and ras mutation spectrum of N-ethyl-N-nitorsourea-induced thymic lymphomas in adult C.B-17 scid mice. , DNA Repair : A Section of Mutation Research, 486, 275-283, 2001

4.Naoko Shiomi, Emiko Hayashi*, Shunichi Sasanuma, Kazuei Mita*, Tadahiro Shiomi: Disruption of Xpg increases spontaneous mutation frequency, particularly A:T-to-C:G transversion, DNA Repair : A Section of Mutation Research, 487, 127-135, 2001

5.Yoshiya Shimada, Mayumi Nishimura, Shizuko Kakinuma, Takeshi Takeuchi*, Toshiaki Ogiu, Gen Suzuki*, Yukiko Nakata, Shunichi Sasanuma, Kazuei Mita*, Toshihiko Sado*: Characteristic association between K-ras gene mutation with loss of heterozygosity in X-ray-induced thymic lymphomas of the B6C3F1 mouse, International Journal of Radiation Biology, 77, 465-473, 2001

6.Yuko Hirai*, Tomonori Hayashi*, Yoshiko Kubo*, Izumi Arita*, Kouichi Tatsumi, Toshio Seyama*: X-irradiation induces up-regulation of ATM gene expression in wild-type lymphoblastoid cell lines, but not in their heterozygous or homozygous ataxia-telangiectasia counterparts, Japanese Journal of Cancer Research , 92, 710-717, 2001

[(4)放射線障害研究]

[緊急被ばく医療に関する研究]

1.Satoshi Fukuda, Haruzo Iida, Xueming Yan*, Yuyuan Xie*: Effects of CBMIDA on removal of uranium in rats, Biomarkers and Environment, 4(Suppl.1), 35-37, 2001

2.Satoshi Fukuda, Haruzo Iida: DTPA treatment for removal of inhaled plutonium nitrate in rats, Biomarkers and Environment, 4(Suppl.1), 66-69, 2001

3.Manabu Koike, Asato Kuroiwa*, Aki Koike, Tadahiro Shiomi, Yoichi Matsuda*: Expression and chromosome location of hamster Ku70 and Ku80, Cytogenetics and Cell Genetics, 93, 52-56, 2001

4.Keiichi Nakagawa*, Takuyou Kozuka*, Masaaki Akahane*, Gen Suzuki*, Makoto Akashi, Yoshio Hosoi*, Yukimasa Aoki*, Kuni Ohtomo*: Radiological findings of accidental radiation injury of the fingers: a case report., Health Physics, 80, 67-70, 2001

5.Toshiyasu Hirama: Health effects of radiation accidents: Japan's experience., Internal Medicine Journal of Thailand, 17, 141-146, 2001

6.Satoshi Fukuda, Haruzo Iida, Yuji Yamada, Kumiko Fukutsu, Akira Koizumi: Effective timing of initial administration of Ca-DTPA upon removal of inhaled plutonium nitrate in rats , Japanese Journal of Health Physics, 36, 25-30, 2001

7.Satoshi Fukuda, Haruzo Iida, Yumi Abe*, Hiroki Yoshida*: Effects of D-Penicillamine and Ca-DTPA on removal of radiocobalt in rats, Japanese Journal of Health Physics, 36, 323-328, 2001

8.Kenzo Fujimoto, Hidenori Yonehara, Yasuhiro Yamaguchi*, Akira Endo*: Dose Estimation Based on a Behavior Survey of Residents around the JCO Facility, Journal of Radiation Research, 42(Suppl.), S85-S93, 2001

9.Makoto Akashi, Toshiyasu Hirama, Sakae Tanosaki*, Norikazu Kuroiwa, Kenichi Nakagawa, Hiroshi Tsuji, Hirotoshi Katou, Shigeru Yamada, Tadashi Kamada, Tatsuya Kinugasa*, H Ariga*, Kazuhiko Maekawa*, Gen Suzuki*, Hirohiko Tsujii: Initial symptoms of acute radiation syndrome in the JCO criticality accident in Tokai-mura., Journal of Radiation Research, 42, 157-166, 2001

10.T Kubota*, Toshiyasu Hirama, W Verbeek*, S Kawano*, D. Y. Chih*, A Chumakov*, H Taguchi*, H. P. Koeffler*: DNase I hypersensitivity analysis of the human CCAAT enhancer binding protein e (C/EBPe) gene. , Leukemia Research, 25, 981-995, 2001

11. Manabu Koike, Tadahiro Shiomi, Aki Koike: Dimerization and Nuclear Localization of Ku Proteins, The Journal of Biological Chemistry, 276, 11167-11173, 2001

[基礎的・萌芽的研究]
[理事長調整費による研究課題]
[放射性物質の存在位置と核種の遠隔同定法の研究]

1.白川　芳幸: タンデム検出器による γ 線の飛来方向とエネルギーの同時計測に関する基礎的検討、Radioisotopes、50、3-8、2001

[基盤研究]
[（1）環境系基盤研究]
[ラドンの環境中における動態と生物影響に関する研究]

1.Shinji Tokonami, Mingli Yang*, Tetsuya Sanada*: Contribution from thoron on the response of passive radon detectors, Health Physics, 80(6), 612-615, 2001

2.Tetsuo Ishikawa, Masafumi Uchiyama*, Masaharu Hoshi*, Jun Takada*, Satoru Endo*, Nobuyuki Sugiura*, Toshisou Kosako*, Isamu Shimizu*: New in-vivo calibration phantoms and their performance, Health Physics, 82, 348-357, 2002

3.古川　雅英、床次　眞司: 沖縄県宮古島における空間 Gamma 線線量率の分布、保健物理、36(3)、195-206、2001

4.石川　徹夫、床次　眞司、米原　英典、福津　久美子、山田　裕司: ラドン娘核種に関する線量換算係数の粒径依存性、保健物理、36(4)、329-338、2001

5.Shinji Tokonami, Quanfu Sun*, Hidenori Yonehara, Yuji Yamada: A simple measurement technique of the equilibrium equivalent thoron concentration with a CR-39 detector, Japanese Journal of Health Physics, 37, 59-63, 2002

6.Weihai Zhuo*, Takao Iida*, et.al: Occurrence of Rn-222,Ra-226,Ra-228 and U in groundwater in Fujian Province, China, Journal of Environmental Radioactivity, 53(1), 111-120, 2001

7.Weihai Zhuo*, Takao Iida*, et.al: Simulation of the concentrations and their distributions of indoor radon and thoron, Radiation Protection Dosimetry, 93(4), 357-368, 2001

8.Quanfu Sun*, Shinji Tokonami, Yuji Yamada, Suminori Akiba*: Main meteorological parameters to influence indoor radon level, Radioisotopes, 51, 120-126, 2002

9.Shinji Tokonami, Mingli Yang*, Hidenori Yonehara, Yuji Yamada: Simple, discriminative measurement technique for radon and thoron concentrations with a single scintillation cell, Review of Scientific Instruments, 73, 69-72, 2002

[環境放射線防護体系構築のための研究]

1.N Giang*, Kunio Shiraishi, Nh Sinh*, Shinzo Kimura, Nn Tuan*, Hideki Arae*: Estimation of dietry 232Th, 238U, cesium, and strontium intakes in Vietnamese people from different geographical regions., Health Physics, 80(6), 605-611, 2001

2.Masae Yukawa, Yuuji Ishikawa, Hitoshi Imaseki, Kazuko Aoki: Elemental Distribution in organs of Medaka, Oryzias laptipes, burdened with X-ray irradiation and salty water , International Journal of PIXE, 10, 121-125, 2000

3.Nobuhito Ishigure, Akira Endo*, Yasuhiro Yamaguchi*, Kiyomitsu Kawachi*: Calculation of Absorbed Dose for the Overexposed Patients at the Criticality Accident in Tokai-mura, Journal of Radiation Research, 42(Suppl.), S137-S148, 2001

4.Sarata Kumar Sahoo, Hidenori Yonehara, Katsumi Kurotaki, Kunio Shiraishi, V Ramzaev*, A Barukovski*: Determination of rare earth elements, thorium, and uranium by inductively coupled plasma mass spectrometry and strontium isotopes by thermal ionization mass spectrometry in soil samples of Bryansk region contaminated due to Chernobyl accident, Journal of Radioanalytical and Nuclear Chemistry, 247(2), 341-345, 2001

5.Shinzo Kimura, Masaaki Kurasaki*, Takeshi Saito*, Keizo Ito*, Toshiyuki Hosokawa*, Masashi Okabe*, Kunio Shiraishi, Tadashi Niioka*: Effects of synthetic dopamine-melanins on oxygen radical formation induced by metal ions with dopamine., Neuroscience Research Communications, 29(1), 31-40, 2001

6.Nobuhito Ishigure, Takashi Nakano, Hiroko Enomoto: 241Am as a Metabolic Tracer for Inhaled Plutonium Nitrate in External Chest Counting, Radiation Protection Dosimetry, 97(3), 271-273, 2001

7.Masatoshi Yamada, Tatsuo Aono: Large particle flux of 239+240Pu on the continental margin of the East China Sea, Science of The Total Environment, 287(1/2), 97-105, 2002

8.Shino Homma-Takeda, Yutaka Kugenuma*, Taeko Iwamuro*, Yoshito Kumagai*, Nobuhiro Shimojo*: Impairment of spermatogenesis in rats by methylmercury: involvement of stage- and cell- specific germ cell apoptosis, Toxicology, 169, 25-35, 2001

9.Shunji Ueno*, Takashige Kashimoto*, Nobuyuki Susa*, Yoshinori Furukawa*, Masamitsu Ishii*, Kazue Yokoi*, Mami Yasuno*, Yuf Sasaki*, Junichi Ueda, Yoshikazu Nishimura, Masayasu Sugiyama*: DeDetection of Dichromate (IV)-induced DNA Strand Breaks and Formation of Paramagnetic Chromium in Multiple Mouse Organs, Toxicology and Applied Pharmacology, 170, 56-62, 2001

[放射線等の環境リスク源による人・生態系への比較影響研究]

1.Seigo Amachi*, Yoichi Kamagata*, Takahiro Kanagawa*, Yasuyuki Muramatsu: Bacteria mediate methylation of iodine in marine and terrestrial environments., Applied and Environmental Microbiology, 67, 2718-2722, 2001

2.Sentaro Takahashi, Isao Takahashi*, Hiroshi Sato, Yoshihisa Kubota, Satoshi Yoshida, Yasuyuki Muramatsu: Age-related changes in the concentrations of major and trace elements in the brain of rats and mice, Biological Trace Element Research, 80, 145-158, 2001

3.Shoichi Fuma, Hiroshi Takeda, Kiriko Miyamoto, Kei Yanagisawa, Yoshikazu Inoue, Nobuyoshi Ishii, Kazunori Sugai, Chitose Ishii*, Zenichiro Kawabata*: Ecological evaluation of gadolinium toxicity compared with other heavy metals using an aquatic microcosm., Bulletin of Environmental Contamination and Toxicology, 66, 231-238, 2001

4.Yasuyuki Muramatsu, Udo Fehn*, Satoshi Yoshida: Recycling of iodine in fore-arc areas: evidence from the iodine brines in Chiba, Japan, Earth and Planetary Science Letters, 192, 583-593, 2001

5.Yasuyuki Muramatsu, Werner Ruhm*, Satoshi Yoshida, Keiko Tagami, Shigeo Uchida, Erich Wirth*: Concentrations of 239Pu and 240Pu and their isotopic ratios determined by ICP-MS in soils collected from the Chernobyl 30-km zone, Environmental Science & Technology, 34(14), 2913-2917, 2000

6.Satoshi Yoshida, Yasuyuki Muramatsu, Keiko Tagami: Determination of uranium isotopes in soil core samples collected on the JCO grounds after the criticality accident., Environmental Science & Technology, 35, 4174-4179, 2001

7.Kiriko Miyamoto, Yoshikazu Inoue, Tetsuo Iwakura*, Hiroshi Takeda, Shoichi Fuma, Kei Yanagisawa, Nobuyoshi Ishii: An Application of a Transfer Model to the Drainage System of Tritium in a River Basin in the Vicinity of a Nuclear Site, Fusion Science and Technology, 41, 483-487, 2002

8.Masahiro Doi, Yuuji Nakamura, Tetsuya Sakashita, Nobuko Ogiu, Frederic Lagarde*, Rolf Falk*: Lifetime Risk of Lung Cancer Due to Radon Exposure Projected to Japanese and Swedish Popurations, Health Physics, 80(6), 552-562, 2001

9.Hiroshi Sato, Sentaro Takahashi, Yoshihisa Kubota: Effects of gadolinium on the retention and translocation of 239Pu-hydroxide, Health Physics, 80, 164-169, 2001

10. Kiriko Miyamoto, Yoshito Watanabe, Masae Yukawa, Hiroshi Takeda, Yoshikazu Nishimura, Nobuhito Ishigure, Toshiyasu Hirama, Makoto Akashi: Reconstruction of Two Victims Posturing Based on the Induced Radioactivities in Their Bones in the Criticality Accident in Tokai-Mura, Japan, Health Physics, 83, 19-25, 2002

11. Hiroshi Takeda, H. M. Lu*, Kiriko Miyamoto, Shoichi Fuma, Kei Yanagisawa, Nobuyoshi Ishii, Noriko Kuroda: Comparative biokinetics of tritium in rats during continuous ingestion of tritiated water and tritium-labeled food., International Journal of Radiation Biology, 77, 375-381, 2001

12.M. Steiner*, I. Linkov*, Satoshi Yoshida: The role of fungi in the transfer and cycling of radionuclides in forest ecosystems., Journal of Environmental Radioactivity, 58, 217-241, 2002

13. Tetsuya Sakashita, Yuuji Nakamura, Masahiro Doi: Test of Wet Scavenging Parameterization Schemes by Simulation of Monthly Depositions of 7Be using Normally Available Data on Environmental Monitoring and Local Meteorology., Journal of Nuclear Science and Technology, 39, 180-186, 2002

14. Hiroshi Takeda, Kiriko Miyamoto, Masae Yukawa, Yoshikazu Nishimura, Yoshito Watanabe, Hee Sun Kim*, Noriko Kuroda, Fuyuki Kouno, Hisamasa Joshima, Toshiyasu Hirama, Makoto Akashi: Bioassay for neutron-dose estimations of three patients in the JCO criticality accident in Tokai-mura by measuring beta-ray emitters, Journal of Radiation Research, 42(Suppl.), s129-s135, 2001

15. Yasuyuki Muramatsu, Yutaka Noda, Hidenori Yonehara, Nobuhito Ishigure, Satoshi Yoshida, Masae Yukawa, Keiko Tagami, Tadaaki Ban-nai, Shigeo Uchida, Toshiyasu Hirama, Makoto Akashi, Yuuji Nakamura: Determination of radiation produced by neutrons in heavily exposed workers of the JCO criticality acccident in Tokai-mura for estimating an individual's neutron fluence., Journal of Radiation Research, 42, 117-128, 2001

16. Seigo Amachi*, Yasuyuki Muramatsu, Yoichi Kamagata*: Radioanalytical determination of biogenic volatile iodine emitted from aqueous environmental samples., Journal of Radioanalytical and Nuclear Chemistry, 246(2), 337-341, 2000

17. Keiichi Furuya*, Yoshiyuki Kudo*, Kiyo Okinaga*, Maho Yamuki*, Sentaro Takahashi, Yoichi Araki*, Yoshiharu Hisamatsu*: Seasonal variation and their characterization of suspended particulate matter in the air of subway stations, Journal of Trace and Microprobe Techniques, 19, 469-485, 2001

18.T. Shinonaga*, M. Gerzabek*, F. Strebl*, Yasuyuki Muramatsu: Trancefer of iodine from soil to cereal grains in agricultural areas of Austria., Science of The Total Environment, 267, 33-40, 2001

19. Yasuyuki Muramatsu, T Hamilton*, Shigeo Uchida, Keiko Tagami, Satoshi Yoshida, W. Robison*: Measurement of 240Pu/239Pu isotopic ratios in soils from the Marshall Islands using ICP-MS., Science of The Total Environment, 278, 151-159, 2001

[（2）生物系基盤研究]

[プルトニウム化合物の内部被ばくによる発がん効果に関する研究]

1.Yutaka Yamada, Yoichi Oghiso, Hiroko Enomoto, Nobuhito Ishigure: Induction of Micronuclei in a Rat Alveolar Epithelial Cell Line by Alpha Particle Irradiation, Radiation Protection Dosimetry, 99, 219-221, 2002

[放射線に対するレドックス制御に関する研究]

1.Kazuyasu Shindo*, Kohki Shinozaki*, Keiichiro Kami*, Kazunori Anzai, Sannamu Lee*, Haruhiko Aoyagi*, Yutaka Kirino*, Ichio Shimada*: Solution structure of micelle-bound H5 peptide (427-452): A primary structure corresponding to the pore-forming region of the voltage dependent potassium channel, Biochimica et Biophysica Acta. Protein Structure and Molecular Enzymology, 1545, 153-159, 2001

2.Hidehiko Nakagawa, Yukiko Ooshima, Mitsuko Takusagawa, Nobuo Ikota, Yutaka Takahashi*, Shigeomi Shimizu*, Toshihiko Ozawa: Functional Modification of Cytochrome c by Peroxynitrite in an Electron Transfer Reaction., Chemical & Pharmaceutical Bulletin, 49, 1547-1554, 2001

3.Junichi Ueda, Yuki Tsuchiya*, Toshihiko Ozawa: Relationship between effects of phenolic compounds on the generation of free radicals from lactoperoxidase-catalyzed oxidation of NAD(P)H or GSH and their DPPH scavenging ability, Chemical & Pharmaceutical Bulletin, 49, 299-304, 2001

4.Jinyi Han*, Keizo Takeshita, Hideo Utsumi*: Noninvasive detection of hydroxyl radical generation in lung by diesel exhaust particles, Free Radical Biology and Medicine, 30, 516-525, 2001

5.Hiroyuki Fukuda*, Masaaki Ebara*, Manaka Arimoto*, Masamichi Oobu*, Shinnen Kin*, Masaharu Yoshikawa*, Nobuyuki Sugiura*, Hiromitsu Saisho*, Masae Yukawa, Nobuo Ikota, Toshihiko Ozawa, Yasumitsu Ogra*, Suzuki Kazuo T.*: Accumulation of copper and generation of hydroxyl radicals of hepatocellular carcinoma, International Journal of PIXE, 11, 111-118, 2001

6.Hiroshi Inano, Makoto Onoda: Prevention of radiation-induced mammary tumors, International Journal of Radiation Oncology Biology Physics, 52, 212-223, 2002

7.Kazunori Anzai, Kuniyasu Ogawa*, Toshihiko Ozawa, Haruhiko Yamamoto*: Quantitative comparison of two types of planar lipid bilayers -folded and painted- with respect to fusion with vesicles, Journal of Biochemical and Biophysical Methods, 48, 283-291, 2001

8.Hidehiko Nakagawa, Nobuo Ikota, Toshihiko Ozawa, Yashige Kotake*: Dose- and Time-dependence of Radiation-induced Nitric Oxide Formation in Mice as Quantified with Electron Paramagnetic Resonance., Nitric Oxide : Biology and Chemistry, 5, 47-52, 2001

9.Hideyuki Majima*, Junichi Ueda, Takako Nakanisi*, Toshihiko Ozawa: 4-Hydroxy-2-Nonenal (4-HNE) Staining by Annti-HNE Antibody, Oxidants and Antioxidants : Ultrastructure and Molecular Biology Protocols (Methods in Molecular Biology ; 196), 196, 31-34, 2002

10. Izumi Tanaka, Hiroshi Ishihara: Enhanced expression of the early retrotransposon in C3H mouse-derived myeloid leukemia cells, Virology, 280, 107-114, 2001

[放射線応答遺伝子発現ネットワーク解析研究]

1.Tatsuya Ohhata*, Ryoko Araki, Ryuutarou Fukumura, Asato Kuroiwa*, Yoichi Matsuda*, Masumi Abe: Cloning, genomic structure and chromosomal localization of the gene encoding mouse DNA helicase RECQL5beta, Gene, 280, 59-66, 2001

2.Byung Taek Kim*, Hiroshi Kitagawa*, Jun-ichi Tamura*, Toshiyuki Saito, Marion Kusche Gullberg*, Ulf Lindahl*, Kazuyuki Sugahara*: Human tumor suppressor EXT gene family members EXTL1 and EXTL3 encode alpha 1,4- N-acetylglucosaminyltransferases that likely are involved in heparan sulfate/ heparin biosynthesis, Proceedings of the National Academy of Sciences of the United States of America, 98, 7176-7181, 2001

3.Toru Fukushima*, Minoru Takata*, Ciaran Morrison*, Ryoko Araki, Akira Fujimori, Masumi Abe, Kouichi Tatsumi, Maria Jasin*, Pawankumar Dhar*, Eiichiro Sonoda*, Tsutomu Chiba*, Shunichi Takeda*: Genetic analysis of the DNA-dependent protein kinase reveals an inhibitory role of Ku in late S-G2 phase DNA double-strand break repair, The Journal of Biological Chemistry, 276, 44413-44418, 2001

[放射線障害に関する基盤的研究]

1.Sachiko Ichimura, Mitsuru Nenoi, Koei Hamana*: Changes in Polyamine Levels in HeLa S3 Cells after Carbon-Ion Beam Irradiation, Annals of Gunma University School of Health Sciences, 22, 59-61, 2001

2.Takako Suzuki*, Shirou Aizawa, Hidetoshi Ikeda*: Expression of receptor for ecotropic murine leukemia virus on hematopoietic cells, Archives of Virology, 146, 507-519, 2001

3.Mitsuru Nenoi, Sachiko Ichimura, Kazuei Mita*, Osami Yukawa, Iain L. Cartwright*: Regulation of the catalase gene promoter by Sp1, CCAAT-recognizing factors,, Cancer Research, 61, 5885-5894, 2001

4.Riako Masuda*, Hisako Sakiyama*, Takashi Nonaka*, Kwan Alvin*, Koichi Nakagawa*, Hideshige Moriya*, Shinobu Ohmi*, Midori Honjo*, Kazuko Yoshida: Establishment and characterization of tartrate-resistant acid phosphatase and alkaline phosphatase double positive cell lines, Cell and Tissue Research, 304, 351-359, 2001

5.Kimihiko Sugaya, Shunichi Sasanuma, Peter Cook*, Kazuei Mita: A mutation in the largest (catalytic) subunit of RNA polymerase II and its relation to the arrest of the cell cycle in G1 phase, Gene, 274, 77-81, 2001

6.Kaoru Tanaka, Keiko Watanabe, Masahiko Mori, Hitoko Kamisaku*, Hideo Tsuji, Yoko Hirabayashi*, Tohoru Inoue*, Kazuko Yoshida, Shirou Aizawa: Cytogenetic and cellular enents during radiation-induced thymic lymphomagenesis in the p53 heterozygous (+/-) B10 mouse, International Journal of Radiation Biology, 78, 165-172, 2002

7.Hisako Sakiyama*, Riako Masuda*, Inoue Naokazu*, Katsushi Yamamoto*, Kazuko Kuriiwa*, Koichi Nakagawa*, Kazuko Yoshida: Establishment and characterization of macrophage-like cell lines expressing osteoclast-specific markerse double positive cell lines, Journal of Bone and Mineral Metabolism, 19, 220-227, 2001

8.Tomohisa Hirobe: Endothelins are involved in regulating the proliferation and differentiation of mouse epidermal melanocytes in serum-free primary culture, Journal of Investigative Dermatology Symposium Proceedings, 6(1), 25-31, 2001

9.Masao Sasaki*, Isamu Hayata, Nanao Kamada*, Yoshiaki Kodama*, Seiji Kodama*: Chromosome Aberration Analysis in Persons Exposed to Low-level Radiation from the JCO Criticality Accident in Tokai-mura, Journal of Radiation Research, 42(Suppl.), S107-S116, 2001

10. Isamu Hayata, Reiko Kanda, Masako Minamihisamatsu, Akira Furukawa, Masao Sasaki*: Cytogenetical dose estimation for 3 severely exposed patients in the JCO criticality accident in Tokai-mura., Journal of Radiation Research, 42(Suppl.), S149-S155, 2001

11. Masako Nose, Akiko Uzawa, Toshiaki Ogiu, Gen Suzuki*: OK-432 reduces mortality and bacterial translocation in irradiated and granulocyte-colony stimulating factor (G-CSF)-treated mice., Journal of Radiation Research, 42, 191-200, 2001

12. Hiroko Inaba, Keun Hee Choi*, Wang Bing, Keiko Haginoya*, Takeshi Yamada*, Isamu Hayata, Harumi Ohyama: Fas-independent apoptosis induced by UVC in p53-mutated human epithelial tumor A431 cells through activation of caspase-8 and JNK/SAPK., Journal of Radiation Research, 42, 201-215, 2001

13. Masanobu Kitagawa, Shirou Aizawa, Toshihiko Sado*, Shuichi Yamaguchi*, Takako Suzuki*, Katsuiku Hirokawa*, Hidetoshi Ikeda*: A gene therapy model for retrovirus-induced disease with a viral env gene: expression-dependent resistance in immunosuppressed hosts, Leukemia, 15, 1779-1784, 2001

14. Shuichi Yamaguchi*, Masanobu Kitagawa, Shirou Aizawa, Katsuiku Hirokawa*: Role of lymphoid cells in age-related change of susceptibility to Friend leukemia virus-induced leukemia, Mechanisms of Ageing and Development, 122, 219-232, 2001

15. Masako Nose, Wang Bing, Hiromi Itsukaichi, Osami Yukawa, Isamu Hayata, Takeshi Yamada*, Harumi Ohyama: Rescue of lethally irradiated mice from hematopoietic death by pre-exposure to 0.5 Gy X rays without recovery from peripheral blood cell depletion and its modification by OK432., Radiation Research, 156, 195-204, 2001

[（3）重粒子線治療に関する基盤研究]

[重粒子線及び標準線量測定法の確立に関する研究開発]

1.Yasushi Iseki*, Yasuyuki Futami, Takehiro Tomitani, Shigeru Koda*, Teiji Nishio, Tatsuaki Kanai, Mitsutaka Kanazawa, Atsushi Kitagawa, Hideyuki Mizuno*, Takeshi Murakami, Munefumi Shinbo*, Mitsuru Suda, Eriko Urakabe: Numerical Simulation Design Study of a Positron Camera for Heavy-Ion Radiotherapy, IEEE Transactions on Nuclear Science, 48(4), 1550-1559, 2001

2.Shinji Abe*, Katsuyuki Nishimura, Hitoshi Satoh*, Tetsuo Inada*, Tetsuya Tomida*, Tatsuya Fujisaki*, Hiroshi Muraishi*, Yasuyuki Futami*, Tatsuaki Kanai, Toshiaki Irie, Kiyomitsu Kawachi*, Shuichi Tazawa*, Mitsutaka Kakefu*: Application of an Imaging Plate to Measurement of Resolution for Heavy Ion Imaging, Japanese Journal of Medical Physics, 21(Suppl.2), 30-33, 2001

[照射方法の高精度化に関する研究開発]

1.太田　和志*、田川　憲男*、皆川　明洋*、守屋　正*、蓑原　伸一: 階層構造をもつ動きモデルと超音波動画像に基づく臓器の動き解析、電子情報通信学会論文誌. A, 基礎・境界、84(12)、1421-1430、2001

[粒子線治療の生物効果に関する研究]

1.Tetsuya Kawata*, Marco Durante*, Yoshiya Furusawa, Kerry George*, Hisao Ito*, Honglu Wu*, Francesca A Cucinotta*: G2-Chromosome Aberarions Induced by High-LET Radiations., Advances in Space Research, 27, 383-391, 2001

2.Yasuyuki Miyato*, Yuko Ibuki*, Harumi Ohyama, Takeshi Yamada*, Rensuke Goto*: Phosphatidylserine induces apoptosis in CHO cells without mitochondrial dysfunction in a manner dependent on caspases other than caspases-1, -3, -8 and -9., FEBS Letters, 504, 73-77, 2001

3.Naoyuki Shigematsu*, Noriko Ihara*, Kouichi Isobe*, Takashi Uno*, Hisao Ito*, Tetsuya Kawata*, Osamu Kawaguchi*, Atsuya Takeda*, Ryouchi Ishibashi*, Shoji Kutsuki*, Atsushi Kubo*, Tatsuaki Kanai, Yoshiya Furusawa: Cell killing and mutation induction by heavy ion beams., International Journal of Molecular Medicine, 7, 509-513, 2001

4.Akihisa Takahashi*, Ken Ohnishi*, Yoshiya Furusawa, Hideki Matsumoto*, Takeo Oonishi: p53-dependent Thermal Enhancement of Cellular Sensitivity against Different LET Radiation in Human Squamous Cell Carcinomas., International Journal of Radiation Biology, 77, 1043-1051, 2001

5.Tetsuya Kawata*, Marco Durante*, Yoshiya Furusawa, Kerry George*, Nobuhiko Takai, Francesca A Cucinotta*: Dose-response of initial G2-chromatid breaks induced in normal human fibroblasts by heavy ions., International Journal of Radiation Biology, 77, 165-174, 2001

6.Kerry George*, Honglu Wu*, Velonoca Willingham*, Yoshiya Furusawa, Tetsuya Kawata*, Francesca A Cucinotta*: High- and low-LET induced chromosome damage in human lymphocytes: a time-course of aberrations in metaphase and interphase., International Journal of Radiation Biology, 77, 175-183, 2001

7.Natsuo Oya*, Keisuke Sasai*, Toru Shibata*, Takehisa Takagi*, Keiko Shibuya*, Sachiko Koike, Kumie Nojima, Yoshiya Furusawa, Koichi Ando, Masahiro Hiraoka*: Time course of reoxygenation in experimental murine tumors after carbon-beam and x-ray irradiation, Journal of Radiation Research, 42, 131-141, 2001

8.Koichi Ando, Yoshiya Furusawa, Masao Suzuki, Kumie Nojima, Hideyuki Majima*, Sachiko Koike, Mizuho Aoki, Wakako Shimizu*, Yasuyuki Futami, Takashi Ogino*, Shigeyuki Murayama*, Hiroshi Ikeda*: Relative biological effectiveness of the 235 MeV proton beams at the National Cancer Center Hospital East, Journal of Radiation Research, 42, 79-89, 2001

9.Tetsuya Kawata, Marco Durante*, Kerry George*, Yoshiya Furusawa, Eisuke Gotoh*, Nobuhiko Takai, Honglu Wu*, Francesca A Cucinotta*: Kinetics of chromatid break repair in G2-human fibroblasts exposed to low- and high-LET radiations, Physica Medica, 17s(1), 226-228, 2001

10. Tetsuya Kawata*, Marco Durante*, Yoshiya Furusawa, Kerry George*, Hisao Ito*, Honglu Wu*, Francesca A Cucinotta*: Rejoining of isochromatid breaks induced by heavy ions in G2-phase normal human fibroblasts., Radiation Research, 156(5), 598-602, 2001

[（4）画像診断に関する基盤的研究]

[NMR に関する基盤的研究]

1.F Girard*, Tetsuya Suhara, Takeshi Sassa*, Yoshiro Okubo*, Takayuki Obata, Hiroo Ikehira, Yasuhiko Sudo*, M Koga*, H Yoshioka*, Katsuya Yoshida: 7Li 2D CSI of human brain on a clinical scanner., MAGMA, 13(1), 1-7, 2001

2.Toshiaki Osuga*, et.al: Magnetic resonance imaging of molecular transport in living morning glory stems., Magnetic Resonance Imaging, 19(10), 1311-1322, 2001

3.Mitsuhiro Ono*, Hiroshi Hirata*, et.al: Experimental investigation of RF magnetic field homogeneity in a bridged loop-gap resonator., Magnetic Resonance in Medicine, 47(2), 415-419, 2002

4.Junichi Takanashi*, Hiroo Ikehira, Shuji Tanada, Eiji Yoshitome, et.al: Brain N-aetylaspartate is elevated in Pelizaeus-Merzbacher disease with PLP1 duplication, Neurology, 58(2), 237-241, 2002

5.Takahiro Sunaga*, Hiroo Ikehira, Shigeo Furukawa, Hiroshi Shinkai*, Eiji Yoshitome, Takayuki Obata, Shuji Tanada, Hajime Murata, Yasuhito Sasaki, et.al: Measurement of the electrical properties of human skin and the variation among subjcts with certain skin conditions, Physics in Medicine and Biology, 47(1), N11-N15, 2002

6.Hiroo Ikehira, Takayuki Obata, Shuji Tanada, et.al: Long-term assessment of posttransplant renal prognosis with 31P magnetic resonance spectroscopy, Transplantation, 72(4), 627-630, 2001

[PET 及び SPECT に関する基盤的研究]

1.Osamu Inoue*, Rie Hosoi*, Kaoru Kobayashi*, Takashi Itoh*, Antony Gee*, Kazutoshi Suzuki: Different sensitivities to competitive inhibition of benzodiazepine receptor binding of 11C-iomazenil and 11C-flumazenil in rhesus monkey brain, Annals of Nuclear Medicine, 15(2), 137-139, 2001

2.Makoto Takei*, Takayo Kida*, Kazutoshi Suzuki: Sensitive measurement of positron emitters eluted from HPLC, Applied Radiation and Isotopes, 55, 229-234, 2001

3.Shigeki Sasaki*, Takahiro Kanda*, Nobuyasu Ishibashi*, Fumihiko Yamamoto*, Terushi Haradahira, Takashi Okauchi*, Jun Maeda*, Kazutoshi Suzuki, Minoru Maeda*: 4,5,9,10-Tetrahydro-1,4-ethanobenz[b]quinolizine as a Prodrug for Its Quinolizinium Cation as a Ligand to the Open State of the TCP-Binding Site of NMDA Receptors, Bioorganic & Medicinal Chemistry Letters, 11, 519-521, 2001

4.Terushi Haradahira, Ming-Rong Zhang*, Jun Maeda*, Takashi Okauchi*, Takayo Kida*, Koichi Kawabe*, Shigeki Sasaki*, Tetsuya Suhara, Kazutoshi Suzuki: A Prodrug of NMDA/Glycine Site Antagonist, L-703,717,

with Improved BBB Permeability: 4-Acetoxy Derivative and Its Positron-Emitter Labeled Analog, Chemical & Pharmaceutical Bulletin, 49(2), 147-150, 2001

5.Katsuya Yoshida, Keiichi Nakagawa, Yoshiaki Masuda*, et.al: Coronary flow reserve in angiographically normal coronary arteries with one-vessel coronary artery disease without traditional risk factors, European Heart Journal, 22, 479-487, 2001

6.Katsuya Yoshida, Keiichi Nakagawa, Kenichi Odaka, Yoshiaki Masuda*, et.al: Role of Relative Myocardial Perfusion Reserve for Evaluating Stenosis Severity in Patients With Single-Vessel Coronary Artery Disease Using [13N] Ammonia and Positron Emission Tomography, Japanese Circulation Journal, 65, 23-27, 2001

7.Shin-ichiro Nagatsuka, Kiyoshi Fukushi, Hitoshi Shinotoh, Hiroki Namba, Masaomi Iyo*, Noriko Tanaka*, Akiyo Aotsuka*, Tsuneyoshi Ota*, Shuji Tanada, Toshiaki Irie: Kinetic Analysis of [11C] MP4A Using a High-Radioactivity Brain Region That Represents an Integrated Input Function for Measurement of Cerebral Acetylcholinesterase Activity Without Arterial Blood Sampling, Journal of Cerebral Blood Flow and Metabolism, 21, 1354-1366, 2001

8.Noriko Tanaka*, Kiyoshi Fukushi, Hitoshi Shinotoh, Shin-ichiro Nagatsuka*, Hiroki Namba, Masaomi Iyo*, Akiyo Aotsuka*, Tsuneyoshi Ota*, Shuji Tanada, Toshiaki Irie: Positron Emission Tomographic Measurement of Brain Acetylcholinesterase Activity Using N-[11C] methylpiperidin-4-yl Acetate Without Arterial Blood Sampling:Methodology of Shape Analysis and its Diagnostic Power for Alzheimer's Disease, Journal of Cerebral Blood Flow and Metabolism, 21, 295-306, 2001

9.Tatsuya Kikuchi*, Kiyoshi Fukushi, Nobuo Ikota, Takao Ueda*, Shin-ichiro Nagatsuka*, Yasushi Arano*, Toshiaki Irie: Synthesis of Piperidinyl and Pyrrolidinyl Butyrates for Potential In Vivo Measurement of Cerebral Butyrylcholinesterase Activity, Journal of Labelled Compounds & Radiopharmaceuticals, 44, 31-41, 2001

10. Szelecsenyi Ferenc*, Kazutoshi Suzuki, Zoltan Kovacs*, Makoto Takei*, Kazuhiro Okada*: Alpha beam monitoring via nat.Cu+alpha processes in the energy range from 40 to 60 Mev., Nuclear Instruments & Methods in Physics Research Section B, 184(4), 589-596, 2001

11. Szelecsenyi Ferenc*, Kazutoshi Suzuki, Zoltan Kovacs*, Makoto Takei*, Kazuhiro Okada*: Production possibility of 60,61,62Cu radioisotopes by alpha induced reactions on cobalt for PET studies, Nuclear Instruments & Methods in Physics Research Section B, 187, 153-163, 2001

12. Junko Noguchi*, Kazutoshi Suzuki: Imaging plate characteristics of positoron emitters:11C,13N,15O,18Fand38K, Radiochimica Acta, 89, 433-437, 2001

13. Terushi Haradahira, Takashi Okauchi*, Jun Maeda*, Ming-Rong Zhang*, Takayo Kida*, Koichi Kawabe*, Masahiro Mishina*, Yasuyoshi Watanabe*, Kazutoshi Suzuki, Tetsuya Suhara: A Positron-Emitter Labeled GlycineB Site Antagonist, [11C]L-703,717, Preferentially Binds to a Cerebellar NMDA Receptor Subtype Consisting of GluR epsilon3 Subunit In Vivo, But Not In Vitro, Synapse, 43, 131-133, 2002

[らせん CT 肺がん検診システムの研究開発]

1.Yasutaka Itani*, Shigeru Watanabe*, Yoshiaki Masuda*, Kazuhisa Hanamura*, Kazuhiro Asakura*, Shusuke Sone*, Yuko Sunami*, Akimitsu Shimura*, Tadaaki Miyamoto: Coronary artery calcification detected by a mobile helical CT unit in a mass screening : the frequency and relationship to coronary risk factors and coronary artery disease, Chiba Medical Journal, 77, 123-131, 2001

2.Yasutaka Itani*, Shigeru Watanabe*, Yoshiaki Masuda*, Kazuhisa Hanamura*, Kazuhiro Asakura*, Shusuke Sone*, Yuko Sunami*, Tadaaki Miyamoto: Measurement of aortic diameters and detection of asymptomatic aortic aneurysms in a mass screening program using a mobile helical computed tomography unit, Heart and Vessels, 16, 42-45, 2002

3.松本　徹、福田　信男*、土川　仁*、藤村　香央理*、藤野　雄一*、高木　博*、吉原　信幸*、古川　章、中川　徹*、曽根　脩輔*: ＣＲＴモニターによるＣＴ画像読影の有用性評価研究－方法論の検討、医学物理、21(Suppl.2)、87-88、2001

4.飯沼　武: コンピューター支援画像診断（ＣＡＤ）の実用化へのステップ一考察、日本乳癌検診学会誌、10(1)、100-102、2001

5.堤　直葉*、阿部　正己*、染谷　武男*、松本　徹: Ｘ線画像の視線解析のための基礎的検討、Medical Imaging Technology、17(3)、152-160、2000

6.飯沼　武、松本　徹、舘野　之男: 胸部ＣＴ検診（ＬＳＣＴ）による肺がん検診の死亡率に減少効果－overdiagnosis を考慮した場合、日本胸部臨床、60(3)、284-290、2001

7.Takeshi Iinuma: Cancer Screening and Radiation, The Journal of Thoracic CT Screening, 44(6), 283-289, 2001

8.飯沼　武、舘野　之男、松本　徹: 新しいＬＳＣＴの出現が肺癌検診の費用効果に及ぼす影響－定性的考察、胸部 CT 検診研究会誌、8(2)、128-131、2001

9.飯沼　武、松本　徹、舘野　之男: 日本の肺癌検診による肺癌死亡数減少の定量的評価、胸部 CT 検診研究会誌、8(2)、132-138、2001

10.中山　富雄*、楠　洋子*、鈴木　隆一郎*、松本　徹: ＣＴ検診の効果評価研究、胸部 CT 検診研究会誌、8(2)、139-142、2001

11.楠　洋子*、中山　富雄*、鈴木　隆一郎*、岡本　英明*、熊谷　年起*、黒田　知純*、中山　典子*、西村　ちひろ*、村井　由美*、松本　徹、宮本　忠昭: 低線量らせんＣＴ車による肺癌スクリーニング、胸部 CT 検診研究会誌、8(2)、98-107、2001

12.潤間　隆宏*、長尾　啓一*、滝口　裕一*、渡辺　励子*、栗山　蕎之*、松本　徹、土川　仁*、藤村　香央理*、藤野　雄一*、鈴木　公典*、中山　富雄*、楠　洋子*、有澤　淳*、黒田　知純*: 車載型らせんＣＴによる肺癌検診での比較読影システム、胸部 CT 検診研究会誌、8(3)、195-197、2001

13.五十嵐　亮*、滝沢　穂高*、山本　眞司*、中川　徹*、松本　徹、舘野　之男、飯沼　武、松本　満臣*: 胸部Ｘ線ＣＴ画像の診断支援システムにおける擬陽性陰影削減処理の改良、胸部 CT 検診研究会誌、8(3)、205-211、2001

14.吉原　信幸*、松本　徹、福久　健二郎、古川　章、矢部　勤*、長尾　啓一*、高木　博*、金木　健一*、清水　祐介*、町田　喜久雄*: 検診用ＣＴ画像を対象とした画質の線量依存性、胸部 CT 検診研究会誌、8(3)、252-259、2001

15.松本　徹、福田　信男*、古川　章、吉原　信幸*、土川　仁*、藤村　香央理*、藤野　雄一*、潤間　隆宏*、長尾　啓一*、鈴木　公典*、黒田　知純*、鈴木　隆一郎*: 胸部ＣＴ検診用ＣＲＴモニター読影の有用性評価に関する研究、胸部 CT 検診研究会誌、8(3)、260-263、2001

16.岡本　英明*、蓬莱　忠志*、熊谷　年起*、坂本　正利*、有澤　淳*、黒田　知純*、鈴木　隆一郎*、松本　徹、宮本　忠昭、長尾　啓一*、高木　博*: らせんＣＴ車の故障分析、胸部 CT 検診研究会誌、8(3)、264-267、2001

17.岡本　英明*、宮崎　正義*、米田　晃敏*、鈴木　敬一*、上田　講記*、熊谷　年起*、坂本　正利*、黒田　知純*、鈴木　隆一郎*、松本　徹: ＣＴ肺癌検診の被曝線量、日本放射線技術学会雑誌、57(8)、939-946、2001

[放射光を用いた単色X線 CT 装置の研究開発]

1.Masami Torikoshi, Takanori Tsunoo, Masahiro Endo, Kouji Noda, Masayuki Kumada, Satoru Yamada, Fuminori Soga, Kazuyuki Hyoudou: Design of synchrotron light source and its beamline dedicated to dual-energy x-ray computed tomography, Jounal of Biomedical Optics, 6, 371-377, 2001

[（5）医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]
[医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]

1.青木　千夏*、西澤　かな枝、戸成　綾子*、蜂屋　順一*: Multi-Detector CT のＸ線被曝線量、日本画像医学雑誌、20、101-109、2001

2.Kanae Nishizawa, Takahiro Uruma*, Yuuichi Takiguchi*, Takayuki Kuriyama*, Noriyuki Yanagawa*, Masaki Matsumoto, Kazuo Iwai*: Dose evaluation and effective dose estimation from CT fluoroscopy-guided lung biopsy, Japanese Journal of Medical Physics, 21, 233-244, 2001

[(6)脳機能研究]
[脳機能研究]

1.Yuri Miura*, Kazunori Anzai, Junichi Ueda, Toshihiko Ozawa: Pathophysiological Significance of In Vivo ESR Signal Decay in Brain Damage Caused by X-Irradiation-Radiation Effect on Nitroxyl Decay of Lipophilic Spin Probe in Head Region-, Biochimica et Biophysica Acta. General Subjects, 1525, 167-172, 2001

2.Tetsuya Ichimiya*, Yoshiro Okubo*, Tetsuya Suhara, Yasuhiko Sudo*: Reduced volume of cerebellar vermis in neuroleptic-naive schizophrenia., Biological Psychiatry, 49, 20-27, 2001

3.Yuuji Ishikawa, Masami Yoshimoto*, Naoyuki Yamamoto*, Takako Yasuda*, Fumio Tokunaga*, Masayuki Iigou*, Yuuko Wakamatsu*, Kenjirou Ozato*: Brain Structures of a Medaka Mutant, el(eyeless), in Which Eye Vesicles Do Not Evaginate, Brain, Behavior and Evolution, 58, 173-184, 2001

4.Sun Xue Zhi, Yoshinobu Harada, Sentaro Takahashi, Naoko Shiomi, Tadahiro Shiomi: Purkinje cell degeneration in mice lacking the xeroderma pigmentosum group G gene, Journal of Neuroscience Research, 64, 348-354, 2001

5.Sun Xue Zhi, Sentaro Takahashi, Yoshihiro Fukui*, Setsuji Hisano*, Yoshihisa Kubota, Hiroshi Sato, Minoru Inoue*: Neurogenesis of heterotopic gray matter in the brain of the microcephalic mouse, Journal of Neuroscience Research, 66, 1083-1093, 2001

6.Makoto Inoue*, Tetsuya Suhara, Yasuhiko Sudo*, Yoshiro Okubo*, Fumihiko Yasuno*, Riwa Kishimoto, Kyosan Yoshikawa, Shuji Tanada: Age related reduction of extrastriatal dopamine D2 receptor measured by PET., Life Sciences, 69, 1079-1084, 2001

7.Hiroshi Ito*, Yasuhiko Sudo*, Tetsuya Suhara, Yoshiro Okubo*, Christer Halldin*, Lars Farde*: Error analysis for quantification of [11C]FLB 457 binding to extrastriatal D2 dopamine receptors in the human brain, NeuroImage, 13, 531-539, 2001

8.Tetsuya Suhara, Fumihiko Yasuno*, Yasuhiko Sudo*, Masahiro Yamamoto*, Makoto Inoue*, Yoshiro Okubo*, Kazutoshi Suzuki: Dopamine D2 receptors in the insular cortex and the personality trait of novelty seeking, NeuroImage, 13, 891-895, 2001

9.Shigeru Obayashi*, Tetsuya Suhara, Koichi Kawabe*, Takashi Okauchi*, Jun Maeda*, Yoshihide Akine*, Hirotaka Onoe*, Atsushi Iriki*: Functional brain mapping of monkey tool use., NeuroImage, 14, 853-861, 2001

10. Fumihiko Yasuno*, Tetsuya Suhara, Yasuhiko Sudo*, Masahiro Yamamoto*, Makoto Inoue*, Yoshiro Okubo*, Kazutoshi Suzuki: Relation among dopamine D2 receptor binding, obesity and personality in in normal human subjects., Neuroscience Letters, 300, 59-61, 2001

11. Yasuhiko Sudo*, Tetsuya Suhara, Makoto Inoue*, Hiroshi Ito*, Kazutoshi Suzuki, Tomoyuki Saijo*, Christer Halldin*, Lars Farde*: Reproducibility of [11C]FLB 457 binding in extrastriatal regions., Nuclear Medicine Communications, 22, 1215-1221, 2001

12. Taeko Miyazaki, Tetsuo Iwami*, Masatake Yamauchi, Hiroaki Somiya*: "Accessory corner cones"as putative UV-sensitive photoreceptors in the retinas of seven adult nototheniid fishes, Polar Biology, 24, 628-632, 2001

13. Tomoyuki Saijo*, T Abe*, Someya Yasuhiro*, Takeshi Sassa*, Yasuhiko Sudo*, Tetsuya Suhara, T Shuno*, Kunihiko Asai*, Yoshiro Okubo*: Ten year progressive ventricular enlargement in schizophrenia: An MRI morphometrical study, Psychiatry and Clinical Neurosciences, 55, 41-47, 2001

14. Fumihiko Yasuno*, Tetsuya Suhara, Yoshiro Okubo*, Yasuhiko Sudo*, Makoto Inoue*, Tetsuya Ichimiya*, Shuji Tanada: Dose relationship of limbic-cortical D2-dopamine receptor occupancy with risperidone., Psychopharmacology, 154, 112-114, 2001

15. Junichi Senba*, N Tanaka*, Maki Wakuta*, Tetsuya Suhara: Neonatal phencyclidine treatment selectively attenuates mesolimbic dopamine function in adult rat as revealed by methamphetamine-induced behavior and c-fos m RNA expression in the brain., Synapse, 40, 11-18, 2001

16. Jun Maeda*, Tetsuya Suhara, Masanao Ogawa*, Takashi Okauchi*, Koichi Kawabe*, Ming-Rong Zhang*, Junichi Semba, Kazutoshi Suzuki: In vivo binding properties of [carbonyl-11C]WAY-100635: effect of endogenous serotonin, Synapse, 40, 122-129, 2001

17. Takashi Okauchi*, Tetsuya Suhara, Jun Maeda*, Koichi Kawabe*, Shigeru Obayashi*, Kazutoshi Suzuki: Effect of Endogenous Dopamine on Extrastriatal [11C]FLB 457 Binding Measured by PET, Synapse, 41, 87-95, 2001

[(7)原子力基盤技術総合的研究]
[マルチトレーサーの製造技術の高度化と先端科学技術研究への応用をめざした基盤研究]

1.Takehiro Tomitani, Masahiko Hirasawa: Image reconstruction from limited angle Compton camera deta, Physics in Medicine and Biology, 47, 2129-2146, 2002

2.Sadao Shibata, Shuichi Enomoto*, Rieko Hirunuma*: Preliminaray study of amalgam extracting method for production of multitracer, RIKEN Review, 35, 115-115, 2001

3.Masahiko Hirasawa, Takehiro Tomitani, Sadao Shibata: New analytical method for three dimensional image reconstruction in multitracer gamma-ray emission imaging; Compton camera for multitracer, RIKEN Review, 35, 118-119, 2001

4.Masahiko Hirasawa: Dead regions and electric thickness in the CdTe(Cl) radiation detector, Radiation Detectors and Their Uses : Proceedings of the Workshop on Radiation Detectors and Their Uses(KEK Proceedings), 15, 106-121, 2001

5.Akihiko Yokoyama*, Shinya Morimoto*, Hirokazu Araki*, Jun Sanada*, Hiroshi Baba*, Atsushi Shinohara*, Sadao Shibata, Tadashi Saito*, Yoshitaka Ohkubo*: Radiochemical Study on the Mechanism of Target Fragmentation of Cu, Nb, Pr and Au Targets Induced by 12C and 40Ar Projectiles, Radiochimica Acta, 89, 703-706, 2001

[放射性核種の土壌生体圏における移行及び動的解析モデルに関する研究]

1.Keiko Tagami, Shigeo Uchida: ICP-MS determination of Re at ultra trace levels in rock and soil samples, Journal of Analytical Atomic Spectrometry, 16, 699-701, 2001

2.M.j. Frissel*, D.l. Deb*, C. Fathony*, Y.m. Lin*, A.s. Mollah*, N.t. Ngo*, I. Othman*, W.l. Robison*, V. Skarlou Alexiou*, S. Topcuoglu*, J.r. Twining*, Shigeo Uchida, W.a. Wassermanm*: Generic Values for Soil-to-Plant Transfer Factors of Radiocesium, Journal of Environmental Radioactivity, 58, 113-128, 2002

[放射線損傷の認識と修復機構の解析とナノレベルでのビジュアル化システムの開発]

1.Masahiko Miura*, Hiroshi Watanabe*, Takehito Sasaki*, Kouichi Tatsumi, Masahiro Muto: Dynamic changes in subnuclear NP95 location during the cell cycle and its spatial relationship with DNA replication foci, Experimental Cell Research, 263, 202-208, 2001

2.Akira Tachibana*, Kouichi Tatsumi, Ikuko Furuno-Fukushi, Masao Sasaki*: High Frequency of Deletions at the Hypoxanthine-guanine Phosphoribosyltransferase Locus in an Ataxia-telangiectasia Lymphoblastoid Cell Line Irradiated with gamma-Rays, Japanese Journal of Cancer Research , 92, 1190-1198, 2001

3.Masahiro Murakami, Masako Minamihisamatsu, Koki Sato*, Isamu Hayata: Structural analysis of heavy ion radiation-induced chromosome aberrations by atomic force microscopy, Journal of Biochemical and Biophysical Methods, 48, 293-301, 2001

4.Hiroshi Yamaguchi, J.G. Siebers*, Akira Furukawa, Nobumasa Otagiri*, Roman Osman*: Molecular Dynamics Simulation of a DNA Containing a Single Strand Break, Radiation Protection Dosimetry, 99(1/4), 103-108, 2002

[競争的研究]
[科学技術振興事業団共同研究:異分野研究者交流促進事業]
[多様計測による特殊生体機能に関する研究]

1.Hideyuki Kokubo*: A Consideration on Research for Anomalous Phenomena with Devices for Photon Detection -Studies in Japan and China- , Journal of International Society of Life Information Science, 19(2), 389-396, 2001

[振興調整費(総合研究)]
[遠隔地重粒子線がん照射シミュレータの研究]

1.佐藤　裕幸*、中川　隆文*、依田　潔*、中島　克人*、坂本　豪信*、遠藤　真広: ワークステーションクラスタを用いた放射線治療計画の高速化、電子情報通信学会論文誌. D-I, 情報・システム, I-情報処理、85(2)、184-192、2002

[個人業績]
[課題外]
[課題外]

1.Keiichi Oda*, Hinako Toyama, Koji Uemura, Youko Ikoma*, Yuichi Kimura*, Michio Senda*: Comparison of parametric FBP and OS-EM reconstruction algorithm images for PET dynamic study, Annals of Nuclear Medicine, 15(5), 417-423, 2001

2.Reiko Imai, Kazushige Hayakawa*, Hideyuki Sakurai*, Yuuko Nakayama*, Norio Mitsuhashi*, Hideo Niibe*: Small Cell Lung Cancer with a Brain Metastasis Controlled for 5Years:a case Report, Japanese Journal of Clinical Oncology, 31(3), 116-118, 2001

3.Reiko Imai, Kazuki Ito*, Naoyuki Ishigami*, Noriyuki Oba*, Nobuaki Nakajima*: Occlusion of the Left Superficial Femoral Artery During Hepatic Arterial Infusion of Chemotherapy for Liver Metastases from Colon Cancer 18 Months After the Implantation of a Port System:a Case Report, Japanese Journal of Clinical Oncology, 32(2), 68-70, 2002

4.Anne De Volder*, Hinako Toyama, Yuichi Kimura*, Motohiro Kiyosawa*, Hideki Nakano*, Annick Vanlierde*, Marie Chantal Wanet Defalque*, Masahiro Mishina*, Keiichi Oda*, Kiichi Ishiwata*, Michio Senda*: Auditory Triggered Mental Imagery of Shape Involves Visual Association Areas in Early Blind Humans., NeuroImage, 14, 129-139, 2001

5.大野　達也、鈴木　良彦*、中山　優子*、仲本　宗健*、清原　浩樹*、石田　常博*: 国立高崎病院における、がん病名告知とがん疼痛治療の現状 : 医師に対するアンケート調査の結果から、北関東医学、51(6)、389-394、2001

[技術支援・開発業務]

1.Hitoshi Imaseki: Introduction of PIXE analysis system in NIRS, International Journal of PIXE, 10, 77-90, 2001

[受託研究及び行政のために必要な業務]
[科学技術特別研究員試験研究費]
[水圏における溶存態 DNA の生成機構と生態学的役割]

1.Matsui Kazuaki*, Nobuyoshi Ishii, Zenichiro Kawabata*: Survival of genetically modified Escherichia coli carrying extraneous antibiotic resistance gene through microbial interactions. , Bulletin of Environmental Contamination and Toxicology, 66, 139-145, 2001

2.Nobuyoshi Ishii, Hiroshi Takeda, Masahiro Doi, Shoichi Fuma, Kiriko Miyamoto, Kei Yanagisawa, Zenichiro Kawabata*: A new method using Enhanced Green Fluorescent Protein (EGFP) to determine grazing rate on live bacterial cells by protists. , Limnology, 3, 47-50, 2002

[文部科学省フェロー]
[高 LET 重粒子線によって誘発される DNA 鎖切断と細胞のバイスタンダー効果]

1.Chunlin Shao*, Mizuho Aoki, Yoshiya Furusawa: Medium-mediated bystander effects on HSG cells co-cultivated with cells irradiated by X-rays or a 290 MeV/u carbon beam., Journal of Radiation Research, 42, 305-316, 2001

[重粒子共同利用研究]
[生物]
[グリオーマ細胞株における重粒子線による Death Receptor を介した細胞死]

1.Yasuo Iwadate*, Junetsu Mizoe, Yasuhiro Osaka*, Akira Yamaura*, Hirohiko Tsujii: High Linear Energy Transfer Carbon Radiation Effectively Kills Cultured Glioma Cells with Either Mutant or Wild-type p53, International Journal of Radiation Oncology Biology Physics, 50, 803-808, 2001

[ブラッグピーク近傍の重粒子イオンを用いたイオン特異的なDNA損傷の誘発と修復 (B413)]

1.小西　輝昭、中島　宏*、岡庭　達也*、竹安　明浩*、檜枝　光太郎*、安田　仲宏、佐藤　幸夫、古澤　佳也: 重粒子線照射による DNA および細胞に及ぼす影響評価のための CR-39 の利用、放射線、27、43-54、2001

[物理・工学]
[Light Ion Fragmentation Studies with Multiple Particle Resolution]

1.Cary Zeitlin*, Akifumi Fukumura, Lawrence Heilbronn*, Yoshiyuki Iwata, Jack Miller*, Takeshi Murakami: Fragmentation cross sections of 600 MeV/nucleon Ne-20 on elemental target, Physical Review C, 64, 024902, 2001

[Verification and Calibration of BP-1 Detectors for the Exremely-Heavy Cosmic Ray Composition Observer (ECCO)]

1.安田　仲宏、中村　正吾*、北村　貴志*、俵　裕子*、関口　舞、並木　佳世子: 超重核探索実験HNX-ECCOにおける固体飛跡検出器測定のための測定法の開発、放射線、27、19-27、2002

[カラー写真を用いた重イオン粒子の飛跡の測定法の開発]

1.久下　謙一*、小林　孝治*、長谷川　朗*、安田　仲宏、熊谷　宏*: カラー写真感光材料を用いた放射線画像の形成、放射線、27(4)、67-76、2002

[重イオン核反応による中性子生成量及び二重微分断面積の測定]

1.Yoshiyuki Iwata, Takeshi Murakami, Hisaki Sato*, Hiroshi Iwase*, Takashi Nakamura*, Tadahiro Kurosawa*, Lawrence Heilbronn*, Reginald Ronningen*, Kazuo Ieki, Yuichi Yozawa*, Koji Niita*: Double-differential cross sections for the neutron production from heavy-ion reactions at energies E/A=290-600 MeV, Physical Review C, 64(5), 054609-1-054609-10, 2001

[重イオン生成中性子の物質内挙動と透過に関する研究]

1.Michiya Sasaki*, Noriaki Nakao*, Tomoya Nunomiya*, Takashi Nakamura, Tokushi Shibata*, Akifumi Fukumura: Response function measurements of the self-TOF neutron detector for neutrons up to 800 MeV, Journal of Nuclear Science and Technology, 38, 8-14, 2001

2.Michiya Sasaki*, Noriaki Nakao*, Tomoya Nunomiya*, Akifumi Fukumura, Takashi Nakamura, Tokushi Shibata*: Development of Self-TOF neutron detector and its application to concrete and iron shielding experiments, Nuclear Instruments & Methods in Physics Research Section A, 476, 327-331, 2002

[独法以前]

[独法以前]

[特別研究:放射線生体防御要因の解析に関する調査研究]

1.Masahiko Mori, Hiromi Itsukaichi, Atsuko Nakamura, Koki Sato*: Molecular Characterization of Ionizing Radiation-Hypersensitive Mutant M10 cells, DNA Repair : A Section of Mutation Research, 487, 85-92, 2000

【平成14年度】

[プロジェクト研究]
[（1）放射線先進医療研究]
[高度画像診断技術の研究開発　イ）4次元CT装置の開発]

1.Masahiro Endo, Takanori Tsunoo, Susumu Kandatsu, Shuji Tanada, Hiroshi Aradate*, Yasuo Saito*: Four-dimensional computed tomography (4D CT) - Concepts and preliminary development, Radiation Medicine, 21(1), 17-22, 2003

[高度画像診断技術の研究開発　ロ）次世代PET装置の開発]

1.Naoko Inadama, Hideo Murayama, Tomohide Omura, Takaji Yamashita*, Seiichi Yamamoto*, Hiroyuki Ishibashi*, Hideyuki Kawai, Kenji Omi*, Takaya Umehara, Takehiro Kasahara: A depth of interaction detector for PET with DSO crystals doped with different amount of Ce., IEEE Transactions on Nuclear Science, 49(3), 629-633, 2002

2.Tomoyuki Hasegawa, Eiichi Tanaka, Mitsuo Watanabe*, Takaji Yamashita*, Taiga Yamaya, Hideo Murayama: A Monte-Carlo simulation study on coarse septa for scatter correction in 3D PET., IEEE Transactions on Nuclear Science, 49(5), 2133-2138, 2002

3.Keishi Kitamura, Masaharu Amano*, Hideo Murayama: Count rate analysis of PET scanner designs based on a GSO depth of interaction detector with a large area PS-PMT., IEEE Transactions on Nuclear Science, 49(5), 2218-2222, 2002

4.Ayuchi Nakamura, Hiroyuki Takahashi, L Zhang*, Daichi Fukuda*, Takaaki Ishizu*, Masaharu Nakazawa*, Masaki Misawa*, Hideo Murayama: Clustering algorithm with adaptive shaping method for CdZnTe detectors., IEEE Transactions on Nuclear Science, 49(6), 3295-3299, 2002

5.Tomoyuki Hasegawa, Hideo Murayama, Hajime Matsuura*, Taiga Yamaya, Shuji Tanada: Shielding effects of body-shields for 3D PET., Japanese Journal of Medical Physics, 22(4), 318-326, 2002

[重粒子線がん治療臨床試験]

1.Akira Iyoda*, Kennzou Hiroshima*, Masayuki Baba, Yukio Saitoh*, Hidemi Owada*, Takehiko Fujisawa*: Pulmonary large cell carcinomas with neuroendocrine features are high grade neuroendocrine tumors., Annals of Thoracic Surgery, 73, 1049-1054, 2002

2.Kennzou Hiroshima*, Akira Iyoda*, Kiyosi Shibuya*, Hidehisa Hoshino*, Yukiko Haga*, Tetsuya Toyozaki*, Mitsutosi Shiba*, Masayuki Baba, Takehiko Fujisawa*, Hidemi Owada*: Evidence of neoangiogenesis and an increase in the number of proliferating cells within the epithelium of smokers., Cancer, 95, 1539-1549, 2002

3.Akira Iyoda*, Masayuki Baba, Yukio Saitoh*, Hidehisa Hoshino*, Kiyosi Shibuya*, Yasushi Nomoto*, Fumio Horiuchi*, Kennzou Hiroshima*, Hidemi Owada*, Takehiko Fujisawa*: Imprint cytologic features of pulmonary sclerosing hemangioma-comparison with well differentiated papillary adenocarcinoma., Cancer, 96, 146-149, 2002

4.Kennosuke Kadono*, Toshiaki Honnma*, Kazuyuki Kamahara*, Mika Nakayama*, Hiroaki Satoh*, Kiyohisa Sekizawa*, Tadaaki Miyamoto: Effect of heavy-ion radiotherapy on pulmonary function in stage I non-small cell lung cancer patients, Chest, 122(6), 1925-1932, 2002

5.Katsuhiro Uzawa*, Kanae Ono*, Chihaya Tanaka*, Takashi Yakushiji*, Nobuharu Yamamoto, Hidetaka Yokoe*, Hideki Tanzawa*: High prevalence of decreased expression of KAI1 metastasis suppressor in human oral carcinogenesis., Clinical Cancer Research, 8, 828-835, 2002

6.山本　直敬、宮本　忠昭、小藤　昌志、吉川　京燦、辻井　博彦：肺癌に対する重粒子線治療、肺癌の臨床、23(8)、201-208、2001

7.小藤　昌志、宮本　忠昭、山本　直敬、辻井　博彦：特集：肺癌の画像診断、重粒子線治療、肺癌の臨床、3、475-479、2000

8.柴原　孝彦*、野間　弘康*、新井　一男*、野村　武史*、横尾　恵子*、山本　信治、橋本　貞充*、大鶴　洋*：下顎骨切除法別にみた下顎歯肉扁平上皮癌の顎骨浸潤に関する臨床・病理組織学的検討、日本口腔外科学会雑誌、48、129-134、2002

9.Minoru Suzuki*, Mizuto Otsuji*, Masayuki Baba, Yukio Saitoh*, Toshihiko Iizasa*, Kiyosi Shibuya*, Yasuo Sekine*, Seiri Yoshida*, Takehiko Fujisawa*: Bronchopleural fistula after lung cancer surgery., Journal of Cardiovascular Surgery, 43, 263-267, 2002

10. Tadashi Kamada, Hirohiko Tsujii, Hiroshi Tsuji, Takeshi Yanagi, Junetsu Mizoe, Tadaaki Miyamoto, Hirotoshi Katou, Shigeru Yamada, Shinroku Morita, Kyosan Yoshikawa, Susumu Kandatsu, Akio Tateishi*: Efficacy and Safety of Carbon Ion Radiotherapy in Bone and Soft Tissue Sarcomas, Journal of Clinical Oncology, 20, 4466-4471, 2002

11. Hiroko Ito, Junetsu Mizoe: The Exchange of Treatment Planning Data Using RTOG Data Exchange Format, Journal of the Japanese Society for Therapeutic Radiology and Oncology, 15, 75-79, 2003

12. Masayuki Baba, Yasuo Sekine*, Minoru Suzuki*, Seiri Yoshida*, Toshihiko Iizasa*, Yukio Saitoh*, Hidemi Owada*, Takehiko Fujisawa*: Correlation between endobronchial ultrasonography (EBUS) images and histologic findings in normal and tumor-invaded bronchial wall., Lung Cancer, 35, 65-71, 2002

13. Masayuki Baba, Akira Iyoda*, Kazuhiro Yasafuku*, Yukiko Haga*, Hidehisa Hoshino*, Yasuo Sekine*, Kiyosi Shibuya*, Toshihiko Iizasa*, Yukio Saitoh*, Kennzou Hiroshima*, Takehiko Fujisawa*: Preoperative cytodiagnosis of very small-sized peripheral-type primary lung cancer., Lung Cancer, 37, 277-280, 2002

14.関根　康雄*、馬場　雅行、千代　雅子*、星野　英久*、安福　和弘*、吉田　成利*、鈴木　実*、飯笹　俊彦*、斎藤　幸雄*、藤澤　武彦*：経気管支超音波診断(EBUS)による腫瘍の気管支壁深達度とリンパ節転移の評価、気管支学、24、283-287、2002

15.星野　英久*、澁谷　潔*、千代　雅子*、馬場　雅行、斎藤　幸雄*、飯笹　俊彦*、関根　康雄*、鈴木　実*、吉田　成利*、伊豫田　明*、廣島　建三*、大和田　英美*、藤澤　武彦*：蛍光内視鏡による肺門部早期肺癌および扁平上皮異形成の診断、気管支学、24、379-383、2002

16. Kiyosi Shibuya*, Hidehisa Hoshino*, Masako Chiyo*, Kazuhiro Yasafuku*, Toshihiko Iizasa*, Yukio Saitoh*, Masayuki Baba, Kennzou Hiroshima*, Hidemi Owada*, Takehiko Fujisawa*: Subepithelial vascular patterns in bronchial dysplasias using higt-magnification bronchoscope., Thorax, 57, 902-907, 2002

17.阿部　敦子*、中野　隆史、辻井　博彦：新しい放射線療法、婦人科悪性腫瘍の薬物・放射線療法（新女性医学大系 / 武谷雄二総編集 ; 44. 腫瘍）、339-355、2000

[(2)放射線感受性遺伝子研究]

[放射線感受性遺伝子研究]

1.Masashi Sagara, Eri Takeda*, Akiyo Nishiyama*, Shunsaku Utsumi*, Yoshirou Toyama*, Shigeki Yuasa*, Yasuharu Ninomiya, Takashi Imai: Characterization of functional regions for nuclear localization of NPAT, Journal of Biochemistry, 132, 875-879, 2002

2.Mayumi Iwakawa, Syuuhei Noda, Toshie Oota, Chisa Kitazawa, Ryonfa Lee, Miyako Gotou, Miyuki Wakabayashi, Yoshifumi Matsui, Yoshinobu Harada, Takashi Imai: Different radiation susceptibility among five strains of mouse detected by skin reaction. , Journal of Radiation Research, 44, 7-13, 2003

3.副島　英伸*、岩川　眞由美：インプリント遺伝子の解析を行った Beckwith-Wiedemann 症候群の２例、日本小児外科学会雑誌、38(6)、89-94、2002

4.岩川　眞由美、松井　芳文、北沢　知佐、李　玲華、原田　良信、今井　高志：ヒトゲノム・遺伝子解析研究に関する倫理指針施行を受けて、日本小児外科学会雑誌、38、725-731、2002

5.Ken Kuramoto*, Sadayuki Ban, Kenji Oda*, Hideo Tanaka*, Akiro Kimura*, Gen Suzuki*: Chromosomal Instability and Radiosensitivity in Myelodysplastic Syndrome Cells., Leukemia, 16, 2253-2258, 2002

6.Yuichi Michikawa, Giuseppe Attardi*: Screening for aging-dependent point mutations in mtDNA., Mitochondrial DNA : Methods and Protocols (Methods in Molecular Biology ; 197), 197, 75-92, 2002

7.Guang Gao*, Adrian Bracken*, Karina Burkard*, Dieo Pasini*, Marie Classon*, Masashi Sagara, Takashi Imai, Kristian Helin*, Jiyong Zhao*: NPAT expression is regulated by E2F and is essential for cell cycle progression, Molecular and Cellular Biology, 23, 2821-2833, 2003

8.Kurisaki Tomohiro*, Aki Masuda*, Katsuko Sudo*, Junko Sakagami*, Shigeki Higashiyama*, Yoichi Matsuda*, Akira Nagabukuro*, Atsushi Tsuji, Youichi Nabeshima*, Masahide Asano*, Youichirou Iwakura*, Atsuko Sehara*: Phenotypic analysis of Meltrin alpha (ADAM12)-deficientmice: involvement of Meltrin alpha in adipogenesis and myogenesis., Molecular and Cellular Biology, 23, 55-61, 2003

9.Zhang Jin*, Asin-cayuela Jordi*, Jennifer Fish*, Yuichi Michikawa, Bonafe Massimiliano*, Olivieri Fabiola*, Passarino Giuseppe*, Giovanna De.benedictis*, Franceschi Claudio*, Giuseppe Attardi*: Strikingly higher frequency in centenarians and twins of mtDNA mutation causing remodeling of replication origin in leukocytes., Proceedings of the National Academy of Sciences of the United States of America, 100(3), 1116-1121, 2003

10. Yuichi Michikawa, Kenneth Laderman*, Richter Katherine*, Giuseppe Attardi*: Role of nuclear background and in vivo environment in variable segregation behaviorof the aging-dependent T414G mutation at critical control site for humanfibroblast mtDNA replication., Somatic Cell and Molecular Genetics, 25, 333-342, 2002

[（3）放射線人体影響研究]

[宇宙放射線による生体影響と防護に関する研究]

1.Hiroshi Yasuda, Tatsuto Komiyama*, Kazunobu Fujitaka: Probability of cell hits in selected organs and tissues by high-LET particles at the ISS orbit., Advances in Space Research, 30, 1011-1015, 2002

2.Hiroshi Yasuda, Kazunobu Fujitaka: Solid-state integrating detectors as an indicator of biological doses from HZE particles., Advances in Space Research, 30, 927-932, 2002

3.Yuanlin Peng*, Qinming Zhang*, Hatsumi Nagasawa*, Ryuichi Okayasu, Howard L. Liber*, Joel S. Bedford*: Silencing expression of the catalytic subunit of DNA-dependent protein kinase by small interfering RNA sensitizes human Cells for radiation-induced chromosome damage, cell killing and mutation, Cancer Research, 62, 6400-6404, 2002

4.Hongning Zhou*, Masao Suzuki, Charles R Geard*, Tom K Hei*: Effects of irradiated medium with or without cells on bystander cell responses., Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 499, 135-141, 2002

5.Takashi Miyachi, Nobuyuki Hasebe, Hiromi Itoh*, Takahiro Masumura*, Hiroyuki Okada*, Osamu Okudaira*, Naoyuki Yamashita*, Hideki Yoshioka*, Takeshi Murakami, Yukio Uchihori: Acoustic Response of Piezoelectric Lead-Zirconate-Titanate to a 400 MeV/n Xenon Beam, Japanese Journal of Applied Physics, 42, 1456-1457, 2003

6.Hiroshi Yasuda, Ikuo Kobayashi*, Hiroshige Morishima*: Decay patterns of optically stimulated luminescence from Al2O3: C for diffirent quality radiations, Journal of Nuclear Science and Technology, 39, 211-213, 2002

7.Eiji Kotani*, Toshiharu Furusawa*, Shunji Nagaoka*, Kumie Nojima, Yukio Sugimura*, Aiko Nagamatsu*, Takeshi Todo*, Mituo Ikenaga*: Somatic Mutation in Larvae of the Silkworm, Bombyx mori, induced by Heavy Ion Irradiation to Diapause Eggs, Journal of Radiation Research, 43(Suppl.), S193-S198, 2002

8.Satoshi Fukuda, Haruzo Iida, Xueming Yan*: Preventive Effects of Running Exercise on Bones in Heavy Ion Prticle Irradiated Rats, Journal of Radiation Research, 43(Suppl.), S233-S238, 2002

9.Hiroshi Yasuda, Tatsuyo Ishidoya*: A Simplified System for Reading Time-resolved Photoluminescence, Journal of Radiation Research, 43(Suppl.), S63-S65, 2002

10. Yukio Uchihori, Kazunobu Fujitaka, Nakahiro Yasuda, Eric Benton*: Intercomparison of Radiation Instruments for Cosmic-ray with Heavy Ion Beams at NIRS (ICCHIBAN Project), Journal of Radiation Research, 43(Suppl.), S81-S85, 2002

11. Jun Sato, Keiji Okada*, Satoshi Fukuda, Reeko Sato*, Jun Yasuda*, Yoshihisa Naito*: Serum activities of tartarate-resistant acid phosphatase and bone specific alkaline phosphatase as indices of bone metabolism in the cow., Journal of Veterinary Medical Science, 64, 653-655, 2002

12. Syoji Torii*, Tadahisa Tamura*, Nobuto Tateyama*, Kenji Yoshida*, Toshisuke Kashiwagi*, Kinya Hibino*, Kazuaki Anraku*, Taro Yamashita*, Fumiaki Makino*, Jyun Nishimura*, Takamasa Yamagami*, Yoshitaka Saito*, Makio Shibata*, Yusaku Katayose*, Yukio Uchihori, Hisashi Kitamura, Masahiro Takayanagi*, Katsumasa Kasahara*, Hiroyuki Murakami*, Tadashi Kobayashi*, Yoshiko Komori*, Kouhei Mizutani*, Toshinori Yuda*: The CALET, CALorimetric Electron Telescope, Mission for the International Space Station, Nuclear Physics B - Proceedings Supplements, 113, 103-110, 2002

13. Yukio Uchihori, Hisashi Kitamura, Kazunobu Fujitaka, Tsvetan Dachev*, Borislav Tomov*, Plamen Dimitrov*, Yura Matviichuk*: Analysis of the calibration results obtained with Liulin-4J spectrometer-dosimeter on protons and heavy ions, Radiation Measurements, 35, 127-134, 2002

14. Hiroshi Yasuda: Application of solid-state integrating dosimeters to biological experiments in space., Radiation Protection Dosimetry, 100, 499-502, 2002

15. Hiroshi Yasuda, Kazunobu Fujitaka: Efficiency of a radiophotoluminescence glass dosemeter for low -Earth-orbit space radiation., Radiation Protection Dosimetry, 100, 545-548, 2002

16. Masashi Takada, Hiroshi Yamaguchi, Hisashi Kitamura, Yukio Uchihori, Kazunobu Fujitaka: Microdosimetric Distribution of Protons, Ep=19-65MeV, Measured with a Low-Pressure Proportional Counter., Radiation Protection Dosimetry, 99(1-4), 391-392, 2002

17. Hongning Zhou*, Masao Suzuki, Gerhard Randers Pehrson*, Charles Waldren*, Tom K Hei*: Genotoxic damage in non-irradiated cells: Contribution from the bystander effect., Radiation Protection Dosimetry, 99, 227-232, 2002

18. Kenji Shinozaki*, Michiyuki Chikawa*, Masaki Fukushima*, Naoaki Hayashida*, Naoya Inoue*, Ken Honda*, Kenji Kadota*, Fumio Kakimoto*, Kouichi Kamata*, Setsuo Kawaguchi*, Saburo Kawakami*, Yoshiya Kawasaki*, Norio Kawasumi*, A Mahrous*, Keiichi Mase*, Tomoko Mizobuchi*, Yuichirou Morizane*, Motohiko Nagano*, Hideyuki Ohoka*, Satoko Osone*, Naoto Sakaki*, Nobuyuki Sakurai*, Makoto Sasaki*, Masahiko Sasano*, Masahiro Takeda*, Masahiro Teshima*, Itsurou Tsushima*, Reiko Torii*, Yukio Uchihori, R Vazquez*, Tokonatsu Yamamoto*, Shigeru Yoshida*, Hisashi Yoshii*: UPPER LIMIT ON GAMMA-RAY FLUX ABOVE 1019 eV ESTIMATED BY THE AKENO GIANT AIR SHOWER ARRAY EXPERIMENT, The Astrophysical Journal, 57, L117-L120, 2002

19.三澤　浩昭、吉川　一朗*、高島　健、本田　理恵、内堀　幸夫、北村　尚、武山　芸英*: BepiColombo/MMO 搭載カメラ用光学ガラスの放射線耐性試験、宇宙科学研究所報告、120、1-10、2002

[低線量放射線の生体影響に関する総合的研究]

1.Masami Yamamoto*, Chie Furihata*, Toshiaki Ogiu, Tetsuya Tsukamoto*, Kenichi Inada*, Kazuyuki Hirano*, Masae Tatematsu*: Independent variation in susceptibilities of six different mouse strains to induction of pepsinogen-altered pyloric glands and gastric tumor intestinalization by N-methyl-N-nitrosourea, Cancer Letters, 179, 121-132, 2002

2.Kazuei Mita, Mitsuoki Morimyo, Kazuhiro Okano*, Yoshiko Koike*, Junko Nohata*, Masataka Suzuki*, Toru Shimada*: Construction of an EST database for Bombyx mori and its application, Current Science, 83, 426-431, 2002

3.Yasushi Ohmachi, et.al: Role of endotoxin in 6-Sulfanilamidoindazole(6SAI)-induced arthritis in rats, Experimental and Toxicologic Pathology, 53(6), 447-452, 2002

4.Masatake Yamauchi, Mayumi Nishimura, Satsuki Tsuji, Minako Terada, Motoe Sasanuma*, Yoshiya Shimada: Effect of SCID mutation on the occurrence of mouse Pc-1 (Ms6-hm) germline mutations., Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 503, 43-49, 2002

5.Yasushi Ohmachi, et.al: Recovery process of arthritis induced by 6-Sulfanilamidoindazole(6SAI) in rats, Histology and Histopathology, 17(2), 437-444, 2002

6.Yuri Miura*, K Abe*, Shiro Urano*, Takeshi Furuse, Yuko Noda, Kouichi Tatsumi, Shozo Suzuki*: Adaptive response and the influence of ageing: effects of low-dose irradiation on cell growth of cultured glial cells, International Journal of Radiation Biology, 78, 913-921, 2002

7.Hideki Ukai, Maki Ukai-tadenuma*, Toshiaki Ogiu, Hideo Tsuji: A new technique to prevent self-ligation of DNA., Journal of Biotechnology, 97, 233-242, 2002

8.藤崎　達也*、平岡　武、村石　浩*、阿部　慎司*、西村　克之、稲田　哲雄*：光の影響を考慮した水等価ファントムの試作、日本医学放射線学会雑誌、62、86-91、2002

9.Shizuko Kakinuma, Mayumi Nishimura, Shunichi Sasanuma, Kazuei Mita, Gen Suzuki*, Yoshimoto Katsura*, Toshihiko Sado*, Yoshiya Shimada: Spectrum of Znfn1a1(Ikaros) inactivation and its association with loss of heterozygosity in radiogenic T-cell lymphomas in susceptible B6C3F1 mice, Radiation Research, 157, 331-340, 2002

10. Tatsuhiko Imaoka, Nelson D. Horseman*, Jason A. Lockefeer*, Takao Mori*, Manabu Matsuda*: Cortactin-Binding Protein 90 (CBP90) Expression in the Mouse Mammary Glands during Prolactin-Induced Lobuloalveolar Development., Zoological Science, 19, 443-448, 2002

[（4）放射線障害研究]

[緊急被ばく医療に関する研究]

1.Naoyuki Anzai, Yonghee Lee*, Byung Youn*, Seiji Fukuda*, Young Kim*, Charlie Mantel*, Makoto Akashi, H. E. Broxmeyer*: c-kit associated with the transmembrane 4 superfamily proteins constitutes a functionally distinct subunit in human hematopoietic progenitors, Blood, 99, 4413-4421, 2002

2.Satoshi Fukuda, Xueming Yan*, Haruzo Iida: Effects of a human dose of Ca-DTPA on removal of plutonium in rats, Japanese Journal of Health Physics, 37, 158-161, 2002

3.Sang-hee Park, Yun Sil Lee*, Yoshiaki Osawa*, Misao Hachiya, Makoto Akashi: Hsp25 Regulates the Expression of p21(Waf1/Cip1/Sdi1) through Multiple Mechanisms., Journal of Biochemistry, 131, 869-875, 2002

4.Kazuko Yoshida, Shirou Aizawa, Keiko Watanabe, Yoko Hirabayashi*, Tohoru Inoue*: Stem-cell leukemia: p53 deficiency mediated suppresion of leukemic differentiation in C3H/He myeloid leukemia, Leukemia Research, 26, 1085-1092, 2002

5.Yasunari Takada, Misao Hachiya, Sang-hee Park, Yoshiaki Osawa*, Toshihiko Ozawa, Makoto Akashi: Role of reactive oxygen species in cells overexpressing manganase superoxide dismutase: Mechanism for induction of radioresistance., Molecular Cancer Research, 1, 137-146, 2002

6.Nobuhiko Ban*, Kazuko Yoshida, Shirou Aizawa, Sachiko Wada*, Michiaki Kai*: Cytogenetic Analysis of Radiation-Induced Leukemia in Trp53-Deficient C3H/He Mice, Radiation Research, 158, 69-77, 2002

[基礎的・萌芽的研究]
[理事長調整費による研究課題]
[固体飛跡検出器を用いた大線量中性子計測法の確立と高エネルギー中性子線量計測法の検討]

1.雨宮　邦招*、高橋　浩之*、中沢　正治*、中川　義信*、清水　秀明*、眞島　利和*、安田　仲宏、山本　幹男: CR-39 と AFM を用いた BNCT マイクロドシメトリ、放射線、27(4)、55-59、2002

2.雨宮　邦招*、高橋　浩之*、中沢　正治*、清水　秀明*、眞島　利和*、中川　義信*、安田　仲宏、山本　幹男: AFM 読み出しによる CR-39 を用いたソフトＸ線イメージング、187、361-366、2002

[頭頸部癌の第 2 番染色体における LOH 解析と癌抑制遺伝子の検索]

1.Nobuharu Yamamoto, Junetsu Mizoe, Hideyuki Numasawa*, Hidetaka Yokoe*, Katsuhiro Uzawa*, Takahiko Shibahara*, Hirohiko Tsujii, Hiroyasu Noma*, Hideki Tanzawa*: Allelic loss of chromosome 2 in human oral squamous cell carcinoma: correlation with lymph node metastasis., Oral Oncology, 39, 64-68, 2003

[放射性物質の存在位置と核種の遠隔同定法の研究]

1.白川　芳幸：方向性検出器の感度特性、Radioisotopes、52、111-117、2003

[基盤研究]
[（1）環境系基盤研究]
[ラドンの環境中における動態と生物影響に関する研究]

1.Shinji Tokonami, Hidenori Yonehara, Mingli Yang*, Masahide Furukawa, Yuji Yamada: Thoron and radon exhalation rate measurements performed on building materials using scintillation cells, High Levels of Natural Radiation and Radon Areas : Radiation Dose and Health Effects : Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas, held in Munich,Germany on September 4 to 7, 2000 vol.II :Poster Presentation(BfS Schriften 24-2002), 271-273, 2002

2.Hirokazu Ichitsubo, Shinji Tokonami, Katsuhiro Miyamoto, Yuji Yamada: EVALUATION OF THE EFFECTIVE DETECTION AREA OF RADIATION DETECTORS, High Levels of Natural Radiation and Radon Areas : Radiation Dose and Health Effects : Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas, held in Munich,Germany on September 4 to 7, 2000 vol.II :Poster Presentation(BfS Schriften 24-2002), 39-42, 2002

3.Shinji Tokonami, Hidenori Yonehara, Weihai Zhuo, Quanfu Sun, Tetsuya Sanada*, Yuji Yamada: Understanding of high radon concentrations observed in a well-ventilated Japanese wooden house, Indoor Air : International Conference on Indoor Air Quality and Climate, 2002(1), 665-669, 2002

4.Kumiko Fukutsu, Yuji Yamada, Michikuni Shimo: Refinement of Screen-Type Diffusion Battery for Fast Measurement and Its Validation by Numerical Simulation, Journal of Atmospheric Electricity, 22, 81-86, 2002

5.Shinji Tokonami, Weihai Zhuo, Hideki Ryuo*, Hidenori Yonehara, Yuji Yamada, Michikuni Shimo: Instrument performance of a radon measuring system with the alpha-track detection technique, Radiation Protection Dosimetry, 103, 69-72, 2003

6.V Ramzaev*, Tetsuo Ishikawa, P Hill*, T Rahola*, G Kaidanovsky*, Hidenori Yonehara, R Hille*, Masafumi Uchiyama*: Intercomparison of whole-body counters by using a subject who had incorporated 137Cs into the body, Radiation Protection Dosimetry, 98(2), 179-189, 2002

7.Weihai Zhuo, Shinji Tokonami, Hidenori Yonehara, Yuji Yamada: a simple passive monitor for integrating measurements of indoor thoron concentrations, Review of Scientific Instruments, 73(8), 2877-2881, 2002

[環境放射線防護体系構築のための研究]

1.Kunio Shiraishi, Midori Iwasaki*, Chyuzo Miyazawa*, Hidenori Yonehara, Masaki Matsumoto: ESR dosimetry in the JCO criticality accident, Advances in ESR Applications, 18, 203-206, 2002

2.Kunio Shiraishi, Warapon Wanitsuksombut*, K Chinudomsub*, Gen Suzuki*, Kanae Nishizawa: ESR dose estimation of the radiological accident in Samut Prakarn, Thailand using sugar samples and an ESR method, Advances in ESR Applications, 18, 207-209, 2002

3.Masatoshi Yamada, Tatsuo Aono: 210Pb and 234Th in settling particles collected by time-series sediment traps in the Okinawa Trough, Deep-Sea Research Part II, 50(2), 487-501, 2003

4.Kazumasa Oguri*, Eiji Matsumoto*, Masatoshi Yamada, Yosiki Saito*, Kazuo Iseki*: Sediment accumulation rates and budgets of depositing particles of the East China Sea, Deep-Sea Research Part II, 50(2), 513-528, 2003

5.E.T. Natera*, D. Valdez*, Hisao Kawamura*, L. Palad*, Kunio Shiraishi: Estimation of daily micronutirient intake of Filipinos, Food and Nutrition Bulletin, 23, 222-226, 2002

6.Shino Homma-Takeda, Yusuke Hiraku*, Yasuhiro Ohkuma*, Shinji Oikawa*, Mariko Murata*, Kazuhiko Ogawa*, Taeko Iwamuro*, Song Li*, Gui Fan Sun*, Yoshito Kumagai*, Nobuhiro Shimojo*, Shosuke Kawanishi*: 2,4,6-Trinitrotoluene-induced reproductive toxicity via oxdative DNA damage by its metabolite, Free Radical Research, 36, 555-566, 2002

7.Shino Homma-Takeda, Yoshikazu Nishimura, Yoshito Watanabe, Hitoshi Imaseki, Masae Yukawa: Application of microPIXE to elemental imaging of the rat testis, International Journal of PIXE, 11, 103-110, 2001

8.Masae Yukawa, Yuuji Ishikawa, Hitoshi Imaseki, Kazuko Aoki: Elemental Distribution in organs of Medaka, Oryzias laptipes, burdened with X-ray irradiation and salty water (Part II), International Journal of PIXE, 11, 119-124, 2001

9.Yoshito Watanabe, Shino Homma-Takeda, Masae Yukawa, Yoshikazu Nishimura: Application of micro-PIXE and ICP-MS to analysis of elemental distribution in root apex of plants., International Journal of PIXE, 11, 125-131, 2001

10.藤元　憲三、O'ＢＲＩＥＮ　Ｋｅｒｅｎ*: 我が国における宇宙線からの線量評価、保健物理、37(4)、325-334、2002

11. Motoi Murata*, Toshio Miyake*, Yasushi Inoue*, Sumio Oshima*, Shinichi Kudo*, Takesumi Yoshimura*, Suminori Akiba*, Toshiro Tango*, Yasuhiko Yoshimoto, Yukiko Shimizu*, Tomotaka Sofue*, Shizuyo Kusumi*, Tamiko Iwasaki*, Chikao Yamagishi*, Hiromichi Matudaira*: Life-style and Other Characteristics of Radiation Workers at Nuclear Facilities in Japan:Base-line Data of a Questionnaire Survey , Journal of Epidemiology, 12, 310-319, 2002

12. Kunio Shiraishi, Midori Iwasaki*, Chyuzo Miyazawa*, Hidenori Yonehara, Masaki Matsumoto: Dose estimation by ESR on tooth enamel from two workers exposed to radiation due to the JCO accident, Journal of Radiation Research, 43, 331-335, 2002

13. Sarata Kumar Sahoo, Hidenori Yonehara, Katsumi Kurotaki, Kenzo Fujimoto, Yuuji Nakamura: Precise determination of 235U/238U isotope ratio in soil samples by using thermal ionization mass spectrometry, Journal of Radioanalytical and Nuclear Chemistry, 252, 241-245, 2002

14. Chushiro Yonezawa*, H Matsue*, Masae Yukawa: Non-destructive determination of trace amounts of iodine in biological samples by epithermal neutron activation and Compton suppression gamma-ray spectrometry, Journal of Radioanalytical and Nuclear Chemistry, 255, 105-109, 2003

15. Yoshikazu Nishimura, Hiroshi Takeda, Kiriko Miyamoto, Yoshito Watanabe, Fuyuki Kouno, Noriko Kuroda, Hee Sun Kim*, Masae Yukawa: Determination of P-32 in urine for early estimation of the neutron exposure level for three vctims of the JCO criticality accident., Journal of Radiological Protection, 22, 25-29, 2002

16. Sarata Kumar Sahoo, Shinzo Kimura, Yoshito Watanabe, Kunio Shiraishi, Akimasa Masuda*: Detection of 236U and variation of uranium isotope composition in the soil samples affected by the JCO criticality accident, Proceedings of the Japan Academy. Ser. B, 78, 196-200, 2002

17. Kazutoshi Suzuki, Hiroshi Sekimoto*, Nobuhito Ishigure: Effect of Uncertainty in Transfer Rates for the ICRP Publication 67 Bikinetic Model on Dose Estimation for 239Pu From Results of Individual Monitoring., Radiation Protection Dosimetry, 102, 333-341, 2002

18. Tamiko Iwasaki*, Motoi Murata*, Sumio Oshima*, Toshio Miyake*, Shinichi Kudo*, Yasushi Inoue*, Takesumi Yoshimura*, Suminori Akiba*, Toshiro Tango*, Yasuhiko Yoshimoto, Yukiko Shimizu*, Tomotaka Sofue*, Shizuyo Kusumi*, Chikao Yamagishi*, Hiromichi Matudaira*: Second Analysis of Mortality of Nuclear Industry Workers in Japan, 1986-1997, Radiation Research, 159, 228-238, 2003

[放射線等の環境リスク源による人・生態系への比較影響研究]

1.Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Shoichi Fuma, Donat P. Haeder*: Effects of gamma-ray and high energy carbon ion irradiation on swimming velocity of Euglena gracilis., Advances in Space Research, 30(4), 1023-1030, 2002

2.Tamiko Iwasaki, Hiroshi Takeda, Kei Yanagisawa: Hatchability of eggs of Artemia stored for long periods., Annual Report of the Society of Japanese Women Scientists, 3, 28-31, 2002

3.Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder*: Gamma irradiation effect Variation of photosynthetic activity of Euglena., Biomedical and Environmental Sciences , 15, 261-267, 2002

4.Tetsuya Sakashita, Donat P. Haeder*, et.al: The use of bioassays for studying toxicology in ecosystems., Current Topics in Plant Biology, 3, 131-142, 2002

5.Usha Rao*, Udo Fehn*, Yasuyuki Muramatsu, Heather Mcneil*, Pankaj Sharma*, David Elmore*: Tracing the history of nuclear release: Determination of 129I in tree rings,, Environmental Science & Technology, 36, 1271-1275, 2002

6.Hiroshi Takeda, Shoichi Fuma, Kiriko Miyamoto, Kei Yanagisawa, Nobuyoshi Ishii, Noriko Kuroda: Estimation of internal dose by blood analyses for exposure to tritium in various chemical forms., Fusion Science and Technology, 41, 445-449, 2002

7.Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder*: High-energy carbon ion irradiation inhibits negative gravitaxis in Euglena gracilis Z., International Journal of Radiation Biology, 78(11), 1055-1060, 2002

8.Shoichi Fuma, Nobuyoshi Ishii, Hiroshi Takeda, Kiriko Miyamoto, Kei Yanagisawa, Yusuke Ichimasa*, Masahiro Saitou*, Zenichiro Kawabata*: Characterization of Simple Aquatic Microcosm for Ecotoxicity Screening, Japanese Journal of Environmental Toxicology, 5, 51-63, 2002

9.Tadaaki Ban-nai, Yasuyuki Muramatsu: Transfer factors of radioactive Cs, Sr, Mn, Co and Zn from Japanese soils to root and leaf of radish, Journal of Environmental Radioactivity, 63, 251-264, 2002

10. Shoichi Fuma, Nobuyoshi Ishii, Hiroshi Takeda, Kiriko Miyamoto, Kei Yanagisawa, Yusuke Ichimasa*, Masahiro Saitou*, Zenichiro Kawabata*, Gennady Polikarpov*: Ecological effects of various toxic agents on the aquatic microcosm in comparison with acute ionizing radiation, Journal of Environmental Radioactivity, 67, 1-14, 2003

11. Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda*, Hiroshi Takeda, Shoichi Fuma, Yuuji Nakamura, Donat P. Haeder*: Comparative study of gamma-ray and high-energy carbon ion irradiation on negative gravitaxis in Euglena gracilis Z., Journal of Plant Physiology, 159(12), 1355-1360, 2002

12. Tetsuya Sakashita, Masahiro Doi, Hiroshi Yasuda, Shoichi Fuma, Donat P. Haeder*: Protection of negative gravitaxis in Euglena gracilis Z against gamma-ray irradiation by Trolox C., Journal of Radiation Research, 43(Suppl.), S257-S259, 2003

13. Kei Yanagisawa, Hiroshi Takeda, Kiriko Miyamoto, Shoichi Fuma, Nobuyoshi Ishii: DETERMINATION OF 13C CONCENTRATION IN BIOLOGICAL MATERIALS USING INFRARED ABSORPTION METHOD, Journal of Radioanalytical and Nuclear Chemistry, 252, 277-280, 2002

14. Tetsuya Sakashita, Takeo Hama*, Shoichi Fuma, Masahiro Doi, Yuuji Nakamura, Nobuyoshi Ishii, Hiroshi Takeda: Effects of gamma irradiation on CO2 fixation and cellular proliferation of Euglena gracilis Z., Journal of Radioanalytical and Nuclear Chemistry, 254(2), 401-403, 2002

15. Keiko Tagami, Shigeo Uchida: Pretreatment of plant samples for the determination of rhenium by ICP-MS, Journal of Radioanalytical and Nuclear Chemistry, 255(3), 547-551, 2003

16. Satoshi Yoshida, Yasuyuki Muramatsu, M. Steiner*, M. Belli*, A. Pasquale*, B. Rafferty*, Werner Ruhm*, A. Rantavaara*, I. Linkov*, A. Dvornik*, T. Zhuchenko*: Stable elements - as a key to predict radionuclide transport in forest ecosystems., Proceedings of the International Congress on the Radioecology-Ecotoxicology of Continental and Estuarine Environments : ECORAD 2001(Radioprotection-colloques ; Vol.37 C1), 37(C1), 391-396, 2002

17. Yasuyuki Muramatsu, Satoshi Yoshida, Tadaaki Ban-nai, Seigo Amachi: Behavior of iodine in the soil-plant system, Proceedings of the International Congress on the Radioecology-Ecotoxicology of Continental and Estuarine Environments : ECORAD 2001(Radioprotection-colloques ; Vol.37 C1), 37(C1), 479-484, 2002

18. Kiriko Miyamoto, Hiroshi Takeda, Yoshikazu Nishimura, Masae Yukawa, Yoshito Watanabe, Nobuhito Ishigure, Fuyuki Kouno, Noriko Kuroda, Makoto Akashi: Validation and Verification of the ICRP Biokinetic Model of 32P:The Criticality Accident in Tokai-mura, Japan, Radiation Protection Dosimetry, 105, 199-208, 2003

19.府馬　正一、石井　伸昌、武田　洋、川端　善一郎*、一政　祐輔*: モデル実験生態系に対する γ 線と酸性化の複合影響、Radioisotopes、51、204-213、2002

20.府馬　正一、井上　義和、宮本　霧子、武田　洋、岩倉　哲男*、新井　清彦*、樫田　義彦*、一政　祐輔*: 1990 年代の日本における 14C の環境バックグラウンドレベル、Radioisotopes、51、381-391、2002

21. Sentaro Takahashi, Hiroshi Sato, Yoshihisa Kubota, Joel S. Bedford*, Ryuichi Okayasu: Inhibition of DNA-double strand break repair by antimony compounds, Toxicology, 180, 249-256, 2002

22. Sentaro Takahashi, Yoshihisa Kubota, Kiyo Okinaga*, Keiichi Furuya*: A new method of estimating the cytotoxic effects of suspended particulate matter on cultured alveolar macrophages in vitro, Toxicology Mechanisms and Methods, 12, 169-180, 2002

[（2）生物系基盤研究]

[プルトニウム化合物の内部被ばくによる発がん効果に関する研究]

1.Yoichi Oghiso, Yutaka Yamada: Immunohistochemical study on cellular origins of rat lung tumors induced by inhalatiion exposures to pultonium dioxide aerosols as compared to those by X-ray irradiation., Journal of Radiation Research, 43, 301-311, 2002

[放射線に対するレドックス制御に関する研究]

1.Keizo Takeshita, Keita Saito, Junichi Ueda, Kazunori Anzai, Toshihiko Ozawa: Kinetic Study on ESR signal decay of nitroxyl radicals, potent redox probes for in vivo ESR spectroscopy, caused by reactive oxygen species, Biochimica et Biophysica Acta. General Subjects, 1573, 156-164, 2002

2.Kiyoshi Fukuhara*, Ikuo Nakanishi, Tomokazu Shimada*, Kei Ohkubo*, Kentaro Miyazaki*, Wataru Hakamata*, Shiro Urano*, Nobuo Ikota, Toshihiko Ozawa, Haruhiro Okuda*, Naoki Miyata*, Shunichi Fukuzumi*: A Planar Catechin Analogue as a Promising Antioxidant with Reduced Prooxidant Activity, Chemical Research in Toxicology, 16, 81-86, 2003

3.Mami Onoda, et.al: Dietary nitrate inhibits stress-induced gastric mucosal injury in the ratstress-induced gastric mucosal injury in the rat, Free Radical Research, 37(1), 85-90, 2003

4.Hiroshi Inano, Makoto Onoda: Radioprotective action of curcumin extrated from CURCUMA LONGA LINN: Inhibitory effect on formation of urinary 8-hydroxy-2'-deoxyguanosine, tumorigenesis, but not mortality, induced by gamma-ray irradiation., International Journal of Radiation Oncology Biology Physics, 53, 735-743, 2002

5.Keita Saito, Keizo Takeshita, Junichi Ueda, Toshihiko Ozawa: Two reaction sites of spin label, TEMPOL (4-hydroxy-2,2,6,6-tetramethylpiperidine-N-oxyl), with hydroxyl radical, Journal of Pharmaceutical Sciences, 92, 275-280, 2003

6.Keiko Suzuki, Masahiko Mori, Fumihiko Kugawa*, Hiroshi Ishihara: Whole-body X-irradiation induces acute and transient expression of heme oxygenase-1 in rat liver., Journal of Radiation Research, 43, 205-210, 2002

7.Kiyoshi Fukuhara*, Ikuo Nakanishi, Hisao Kansui*, Etsuko Sugiyama*, Mitsuhiro Kimura*, Tomokazu Shimada*, Shiro Urano*, Kentaro Yamaguchi*, Naoki Miyata*: Enhanced Radical-Scavenging Activity of a Planar Catechin Analogue, Journal of the American Chemical Society, 124, 5952-5953, 2002

8.Ikuo Nakanishi, Kiyoshi Fukuhara*, Tomokazu Shimada*, Yuko Iizuka*, Keiko Inami*, Masataka Mochizuki*, Shiro Urano*, Shinobu Itoh*, Naoki Miyata*, Shunichi Fukuzumi*: Effects of Magnesium Ion on Kinetic Stability and Spin Distribution of Phenoxyl Radical Derived from a Vitamin E Analogue: Mechanistic Insight into Antioxidative Hydrogen Transfer Reaction of Vitamin E, Journal of the Chemical Society, Perkin Transactins 2, 2002, 1520-1524, 2002

9.Ikuo Nakanishi, Kei Ohkubo*, Shunsuke Fujita*, Shunichi Fukuzumi*, Toshifumi Konishi*, Mamoru Fujitsuka*, Osamu Ito*, Naoki Miyata*: Direct Detection of Superoxide Anion Generated in C60-Photosensitized Oxidation of NADH and an Analogue by Molecular Oxygen, Journal of the Chemical Society, Perkin Transactins 2, 2002, 1829-1833, 2002

10. Hiroshi Inano, Makoto Onoda: Role of nitric oxide in radiation-induced initiation of mammary tumorigenesis in rats., Nitric Oxide : Biology and Chemistry, 8, 144-148, 2003

11. Ikuo Nakanishi, Kentaro Miyazaki*, Tomokazu Shimada*, Kei Ohkubo*, Shiro Urano*, Nobuo Ikota, Toshihiko Ozawa, Shunichi Fukuzumi*, Kiyoshi Fukuhara*: Effects of Metal Ions Distinguishing between One-Step Hydrogen- and Electron-Transfer Mechanisms for the Radical-Scavenging Reaction of (+)-Catechin, The Journal of Physical Chemistry A, 106(46), 11123-11126, 2002

12. Ikuo Nakanishi, Shunichi Fukuzumi*, Toshifumi Konishi*, Kei Ohkubo*, Mamoru Fujitsuka*, Osamu Ito*, Naoki Miyata*: DNA Cleavage via Superoxide Anion Formed in Photoinduced Electron Transfer from NADH

to g-Cyclodextrin-Bicapped C60 in an Oxygen-Saturated Aqueous Solution, The Journal of Physical Chemistry B, 106, 2372-2380, 2002

13. Hidekazu Fujimaki*, Keiko Nohara*, Takahihiro Kobayashi*, Keiko Suzuki, Kiyomi Eguchi-Kasai, Shinichi Tsukumo*, Mika Kijima*, Chiharu Tohyama*: Effect of a single oral dose of 2,3,7,8-tetrachlorodibenzo-p-dioxin on immune function in Male NC/Nga mice, Toxicological Sciences, 66, 117-124, 2002

[放射線影響研究のための実験動物の開発に関する研究]

1.Hiromi Omoe, Katsuhiko Omoe*, Masahiro Sakaguchi*, Yousuke Kameoka*, Satoru Matsushita, Toshiki Inada*: Production of virus-specific antiserum corresponding to sequences in the lactate dehydrogenase-elevating virus (LDV) ORF6 protein., Comparative Immunology, Microbiology & Infectious Diseases, 27, 47-55, 2004

2.Seiji Kito, Yoshiko Noguchi*, Yuki Oota: Developmental responses of two substrains of in vitro fertilized C57BL/6J mouse embryos to oxygen and amino acids, Experimental Animals, 52, 63-66, 2003

3.Akihiko Koga*, Hiroshi Hori*, Yuuji Ishikawa: Gamera, a family of LINE-like repetitive sequences widely distributed in medaka and related fishes, Heredity, 89, 446-452, 2002

4.Seiji Kito, Shintarou Tateno*, Yuki Oota, Yoshiko Noguchi*: Kinetics of in vitro fertilization and development of an inbred mouse strain: study using RFM/Ms compared with C57BL/6J., Journal of Mammalian Ova Research, 19, 32-38, 2002

[放射線応答遺伝子発現ネットワーク解析研究]

1.Katsushi Yamamoto*, Inoue Naokazu*, Riako Masuda*, Akira Fujimori, Toshiyuki Saito, Shinobu Imajoh-Ohmi*, Hiroshi Shinkai*, Hisako Sakiyama*: Cloning of hamster type XVII collagen cDNA, and pathogenesis of anti-type XVII collagen antibody and complement in hamster bullous pemphigoid., Journal of Investigative Dermatology, 118, 485-492, 2002

2.Akira Fujimori, Hiroshi Hashimoto*, Ryoko Araki, Toshiyuki Saito, Shinji Sato*, Yasuji Kasama*, Yoko Tsutsumi*, Masahiko Mori, Ryuutarou Fukumura, Tatsuya Ohhata*, Kouichi Tatsumi, Masumi Abe: Sequence analysis of 193.4 and 83.9 kbp of mouse and chicken genomic DNAs containing the entire Prkdc (DNA-PKcs) gene, Radiation Research, 157, 298-305, 2002

3.Masahiro Muto, Yasuyoshi Kanari*, Eiko Kubo, Takayuki Kurihara*, Akira Fujimori, Kouichi Tatsumi: Targeted disruption of Np95 gene renders murine embryonic stem cells hypersensitive to DNA damaging agents and DNA replication blocks, The Journal of Biological Chemistry, 277, 34549-34555, 2002

[放射線障害に関する基盤的研究]

1.Kunihiko Fukuchi*, Tamio Hagiwara*, Kenntarou Nakamura*, Sachiko Ichimura, Kouichi Tatsumi, Kunihide Gomi*: Identification of the regulatory region required for ubiquitination of the cyclin kinase inhibitor,p21, Biochemical and Biophysical Research Communications, 293, 120-125, 2002

2.Hideyuki Tomitori*, Mitsuru Nenoi, Kazuei Mita, Kazuhiro Daino, Kazuei Igarashi*, Sachiko Ichimura: Functional characterization of the human spermidine / spermine N1 - acetyltransferase gene promoter, Biochimica et Biophysica Acta. General Subjects, 1579, 180-184, 2002

3.Hisako Sakiyama*, Takashi Nonaka*, Riako Masuda*, Inoue Naokazu*, Yoshinori Kuboki*, Mayumi Iijima*, Yoshio Hirabayashi*, Masahiko Takahagi, Kazuko Yoshida, Kazuko Kuriiwa*, Michiteru Yoshida*, Shinobu Ohmi*: Characterization of mineral deposits formed in cultures of a hamster tartrate-resistant acid phosphatase (TRAP) and alkaline phosphatase (ALP) double-positive cell line (CCP), Cell and Tissue Research, 309, 269-279, 2002

4.Kimihiko Sugaya: Amino Acid Substitution of the Largest Subunit of Yeast RNA Polymerase II: Effect of a Temperature-sensitive Mutation Related to G1 Cell Cycle Arrest, Current Microbiology, 47, 159-162, 2003

5.Fumio Yatagai*, Toshihiro Kurobe*, Takehiko Nohmi*, Ken Ichi Masumura*, Teruyo Tsukada*, Hirotake Yamaguchi*, Kiyomi Eguchi-Kasai, Nobuhisa Fukunishi*: Heavy-ion-induced mutations in the gpt delta transgenic mouse: Effect of p53 gene knockout, Environmental and Molecular Mutagenesis, 40, 216-225, 2002

6.Hideki Kawasaki*, Kimihiko Sugaya, Guo Xing Quan*, Junko Nohata*, Kazuei Mita*: Analysis of alfa- and beta-tubulin genes of Bombyx mori using an EST database, Insect Biochemistry and Molecular Biology, 33, 131-137, 2003

7.Reiko Kanda, Masako Minamihisamatsu, Isamu Hayata: Dynamic analysis of chromosome aberrations in three victims of the Tokai-mura criticality accident. , International Journal of Radiation Biology, 78, 857-862, 2002

8.Hiroshi Kimura*, Kimihiko Sugaya, Peter Cook*: The transcription cycle of RNA polymerase II in living cells, Journal of Cell Biology, 159, 777-782, 2002

9.Tomohisa Hirobe, Kazumasa Wakamatsu*, Shosuke Ito*, Hiroyuki Abe*, Yoko Kawa*, Masako Mizoguchi*: Stimulation of the proliferation and differentiation of mouse pink-eyed dilution epidermal melanocytes by excess tyrosine in serum-free primary culture, Journal of Cellular Physiology, 191(2), 162-172, 2002

10. Tomohisa Hirobe: Role of leukemia inhibitory factor in the regulation of the proliferation and differentiation of neonatal mouse epidermal melanocytes in culture, Journal of Cellular Physiology, 192(3), 315-326, 2002

11. Tomohisa Hirobe, Yoko Kawa*, Masako Mizoguchi*, Shosuke Ito*, Kazumasa Wakamatsu*: Effects of genic substitution at the pink-eyed dilution locus on the proliferation and differentiation of mouse epidermal melanocytes in vivo and in vitro, Journal of Experimental Zoology, 292(4), 351-366, 2002

12. Manabu Koike: Dimerization, translocation and localization of Ku70 and Ku80 Proteins, Journal of Radiation Research, 43, 223-236, 2002

13. Wang Chun Yan, Zhang Wei, Chen Deqing*, Isamu Hayata, Masako Minamihisamatsu, Hiroshige Morishima*, Yuan Yongling*, Wei Luxin*, Tsutomu Sugahara*: Stable Type Chromosome Aberrations in the Residents of the High Background Radiation Area in China, Journal of Radiation Research and Radiation Processing, 20(4), 260-264, 2002

14. Masanobu Kitagawa, Shuichi Yamaguchi, Maki Hasegawa, Kaoru Tanaka, Toshihiko Sado, Katsuiku Hirokawa*, Shirou Aizawa: Friend Leukemia Virus Infection Enhances DNA Damage-Induced Apoptosis of Hematopoietic Cells, Causing Lethal Anemia in C3H Hosts, Journal of Virology, 76, 7790-7798, 2002

15. Marcin Kruszewski*, Hanna Kruszewska*, Masahiko Mori, Kiyomi Eguchi-Kasai, Hiroko Inaba, Iwona Zakierska*, Isamu Hayata: Low frequency of spontaneous rearrangements during plasmid incorporation in CHO-KI mutant cells defective in DNA repair, Nukleonika, 47(1), 7-11, 2002

16. Rikako Furuya*, Satoru Akiu*, Ritsuro Ideta*, Masako Naganuma*, Minoru Fukuda*, Tomohisa Hirobe: Changes in the proliferative activity of epidermal melanocytes in serum-free primary culture during the development of UVB-induced pigmented spots in hairless mice, Pigment Cell Research, 15(5), 348-356, 2002

17. Tomohisa Hirobe, Rikako Furuya*, Satoru Akiu*, Ouji Ifuku*, Minoru Fukuda*: Keratinocytes control the proliferation and differentiation of cultured epidermal melanocytes from ultraviolet radiation B-induced pigmented spots in the dorsal skin of hairless mice, Pigment Cell Research, 15(5), 391-399, 2002

18. Kazuhiro Daino, Sachiko Ichimura, Mitsuru Nenoi: Early induction of CDKN1A (p21) and GADD45 mRNA by a low dose of ionizing radiation is due to their dose-dependent post-transcriptional regulation., Radiation Research, 157, 478-482, 2002

19. Reiko Kanda, Kiyomi Eguchi-Kasai, Hiromi Itsukaichi, Masahiko Mori, Isamu Hayata: Chemically induced premature chromosome condensation in human fibroblast cell lines: Fundamental study for applications to the biodosimetry of local exposure., Somatic Cell and Molecular Genetics, 25, 317-325, 2002

[（3）重粒子線治療に関する基盤研究]

[重粒子線がん治療臨床試験評価のための情報処理に関する研究]

1.生駒　洋子、外山　比南子、内山　明彦*: PET 動態解析におけるモデルパラメータの推定精度の検討（[18F]FDOPA を用いたドパミン代謝測定におけるパラメータ数の削減）、電気学会論文誌. C, 電子・情報・システム部門誌、122(9)、1658-1663、2002

[重粒子線及び標準線量測定法の確立に関する研究開発]

1.Yoshihiko Onizuka*, Satoru Endo*, Masayori Ishikawa*, Masashi Takada, Masaharu Hoshi*, Shuzou Uehara*: Microdosimetry of epthermal neutron field at the Kyoto University Reactor., Radiation Protection Dosimetry, 99(1-4), 383-385, 2002

2.Satoru Endo*, Masashi Takada, Masayori Ishikawa*, Masaharu Hoshi*, Shuzou Uehara*, Hiroshi Yamaguchi, Tatsuaki Kanai, Naruhiro Matsufuji, Kiyoshi Shizuma*, Yoshihiko Onizuka*: Characterisation of an ultra-miniature counter for Microdosimetric measurements in a therapeutic 400 MeV/A Carbon beam., Radiation Protection Dosimetry, 99(1-4), 421-424, 2002

[照射方法の高精度化に関する研究開発]

1.Nobuyuki Kanematsu, Masahiro Endo, Yasuyuki Futami, Tatsuaki Kanai, Hiroshi Asaskura*, Hiroyoshi Oka*, Ken Yusa*: Treatment planning for the layer-stacking irradiation system for three-dimensional conformal heavy-ion radiotherapy, Medical Physics, 29(12), 2823-2829, 2002

2.Manabu Mizota, Tatsuaki Kanai, Munefumi Shinbo, Yasuyuki Futami, Masahiro Endo: Reconstrubtion of Biologically Equivalent Dose Distribution on CT-image from Measured Physical Dose Distribution of Therapeutic Beam in Water Phantom, Physics in Medicine and Biology, 47, 923-945, 2002

[粒子線がん治療装置の小型化に関する研究開発]

1.Tetsumi Tanabe*, Katsuhisa Chida*, Kouji Noda, Ikuo Watanabe*: An electrostatic storage ring for atomic and molecular science, Nuclear Instruments & Methods in Physics Research Section A, 482, 595-605, 2002

2.Masayuki Muramatsu, Atsushi Kitagawa, Yukio Satou, Satoru Yamada, Toshiyuki Hattori*, Mitsuru Hanagasaki*, Toshitaka Fukushima*, Hirotsugu Ogawa*: Development of an ECR ion source for carbon therapy, Review of Scientific Instruments, 73(2), 573-575, 2002

3.Atsushi Kitagawa: Study of the extracted beam and the radial magnetic field of ECR ion source, Review of Scientific Instruments, 73, 604-606, 2002

4.Yukio Satou: Effects of Ion-Pumping in a Pulsed Penning Source, Review of Scientific Instruments, 73, 720-722, 2002

[粒子線治療の生物効果に関する研究]

1.Yoshiya Furusawa, Mizuho Aoki, Marco Durante*: Simultaneous exposure of mammalian cells to heavy ions and X-rays, Advances in Space Research, 30, 877-884, 2002

2.Isao Asakawa*, H Yoshimura*, Akihisa Takahashi*, Ken Ohnishi*, H Nakagawa*, I Ota*, Yoshiya Furusawa, Tetsurou Tamamoto*, H Ohishi*, Takeo Oonishi*: Radiation-induced growth inhibition in transplanted human tongue carcinomas with different p53 gene status, Anticancer Research, 24, 2037-2043, 2002

3.Fumihiko Yamamoto*, Mizuho Aoki, Yoshiya Furusawa, Koichi Ando, Yasuo Kuwabara*, Kouji Masuda*, Shigeki Sasaki*, Minoru Maeda*: Synthesis and evaluation of 4-Bromo-1-(3-[18F]fluoropropyl)-2-nitroimidazole with a low energy LUMO orbital designed as brain hypoxia-targetting imaging agent, Biological and Pharmaceutical Bulletin , 25, 616-621, 2002

4.Kazufumi Kagawa*, Masao Murakami*, Yoshio Hishikawa*, Mitsuyuki Abe*, Takashi Akagi*, Toshihiro Yanou*, Gou Kagiya*, Yoshiya Furusawa, Koichi Ando, Kumie Nojima, Mizuho Aoki, Tatsuaki Kanai: Preclinical biological assessment of proton and carbon ion beams at Hyogo Ion Beam Medical Center, International Journal of Radiation Oncology Biology Physics, 54, 928-938, 2002

5.Marco Durante*, G Gialanella*, Malia Antonella Pugliese*, Tetsuya Kawata*, Nakahiro Yasuda, Yoshiya Furusawa: Influence of the shielding on the space radiation radiobiological effectiveness. II. Chromosomal aberrations, Journal of Radiation Research, 43(Suppl.), s107-s111, 2002

6.Tetsuya Kawata*, Hisao Ito*, Ken Motoori*, Takuya Ueda*, Naoyuki Shigematsu*, Yoshiya Furusawa, Marco Durante*, Kerry George*, Honglu Wu*, Francesca A Cucinotta*: Induction of chromatin damage and distribution of isochromatid breaks in human fibroblast cells exposed to heavy ion, Journal of Radiation Research, 43(Suppl.), s169-s173, 2002

7.Sylvia Ritter*, E Nasonova*, Yoshiya Furusawa, Koichi Ando: Relationship between aberration yield and mitotic delay in human lymphocytes exposed to 200 MeV/u Fe-ions or X-rays, Journal of Radiation Research, 43(Suppl.), s175-s179, 2002

8.Honglu Wu*, Yoshiya Furusawa, Kerry George*, Tetsuya Kawata*, Francesca A Cucinotta*: Analisis of unrejoined chromosomal breakage in human fibroblast cells exposed to low- and high-LET radiation, Journal of Radiation Research, 43(Suppl.), s181-s185, 2002

9.Mizuho Aoki, Yoshiya Furusawa, Yuta Shibamoto*, Ataru Kobayashi*, Michihiko Tsujitani*: Effect of a hypoxic cell sensitizer Dranidazole in radiation-induced apoptosis of mouse L5178Y lymphoma cells, Journal of Radiation Research, 43, 161-166, 2002

10. Manami Monobe, Koichi Ando: Drinking Beer Reduces Radiation-induced Chromosome Aberrations in Human Lymphocytes, Journal of Radiation Research, 43, 237-245, 2002

11. Sachiko Koike, Koichi Ando, Chisa Oohira*, Takeshi Fukawa, Ryonfa Lee, Nobuhiko Takai, Akiko Uzawa, Manami Monobe, Yoshiya Furusawa, Mizuho Aoki, Shigeru Yamada, Wakako Shimizu*, Kumie Nojima, Hideyuki Majima*: Relative biological effectiveness of 290 MeV/u carbon ions for the growth delay of a radioresistant murine fibrosarcoma, Journal of Radiation Research, 43, 247-255, 2002

12. Shozo Suzuki*, Yuri Miura*, Shoichi Mizuno*, Yoshiya Furusawa: Models for mixed irradiation with a 'Reciprocal-Time' pattern of the repair function, Journal of Radiation Research, 43, 257-267, 2002

13. Sachiko Koike, Koichi Ando, Akiko Uzawa, Nobuhiko Takai, Takeshi Fukawa, Yoshiya Furusawa, Chisa Oohira*, Mizuho Aoki, Manami Monobe, Ryonfa Lee*, Masao Suzuki, Kumie Nojima: Significance of fractionated irradiation for the biological therapeutic gain of carbon ions, Radiation Protection Dosimetry, 99, 405-408, 2002

[(4)画像診断に関する基盤的研究]
[NMR に関する基盤的研究]

1.Junichi Takanashi, et.al: Brain MR imaging in acute hyperammonemic encephalopathy arising from late-onset ornithine transcarbamylase deficiency., American Journal of Neuroradiology, 24(3), 390-393, 2005

2.Junichi Takanashi, et.al: Middle interhemispheric variant of holoprosencephaly associated with diffuse polymicrogyria., American Journal of Neuroradiology, 24(3), 394-397, 2003

3.大須賀　敏明、池平　博夫、小畠　隆行：中空糸透析器の流動シュミレーション、情報処理学会論文誌、43、2687-2696、2002

4.Hiroshi Hirata*, Mitsuhiro Ono*, et.al: 1.1-GHz continuous-wave EPR spectroscopy with a frequency modulation method., Journal of Magnetic Resonance, 155(1), 140-144, 2002

5.Junichi Takanashi*, Hiroo Ikehira, Shuji Tanada, et.al: Distinctly abnormal brain metabolism in late-onset ornithine transcarbamylase deficiency, Neurology, 59(2), 210-214, 2002

6.Takeshi Sassa, Tetsuya Suhara, Hiroo Ikehira, Takayuki Obata, F Girard*, Shuji Tanada, Yoshiro Okubo: 19F-magnetic resonance spectroscopy and chemical shift imaging for schizophrenic patients using haloperidol decanoate, Psychiatry and Clinical Neurosciences, 56(6), 637-642, 2002

[PET 及び SPECT に関する基盤的研究]

1.Yoshinori Ishiguro*, Tatsuya Kikuchi, Hiromi Etsuki, Toshiaki Irie: Does Xenon Anesthesia Inhibit Cholinesterases?, Anesthesiology, 98(3), 791-792, 2003

2.Ming-Rong Zhang*, Akio Tsuchiyama*, Terushi Haradahira, Yuichirou Yoshida*, Kenji Furutsuka*, Kazutoshi Suzuki: Development of an automated system for synthesizing 18F-labeled compounds using [18F]fluoroethyl bromide as a synthetic precursor, Applied Radiation and Isotopes, 57, 335-342, 2002

3.Mikio Sato, Tetsuya Toyozaki*, Kenichi Odaka, Tomoya Uehara*, Yasushi Arano*, Hiroshi Hasegawa, Katsuya Yoshida, Kyoko Yoshida*, Toshimichi Yoshida*, Michiaki Hiroe*, Hiroyuki Tadokoro, Toshiaki Irie, Shuji Tanada, Issei Komuro*: Detection of experimental autoimmune myocarditis in rats by 111In monoclonal antibody specific for Tenascin-C., Circulation, 106, 1397-1402, 2002

4.Naoyuki Watanabe*, Shuji Tanada, Hajime Murata, Yasuhito Sasaki: I-123 IMP Pulmonary SPECT in a Patient with Acute Pulmonary Thromboembolism, Clinical Nuclear Medicine, 27, 460-461, 2002

5.Ming-Rong Zhang*, Terushi Haradahira, Jun Maeda*, Takashi Okauchi*, Takayo Kida*, Shigeru Obayashi, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis and preliminary PET study of the 5-HT7 receptor antagonist [11C]DR4446, Journal of Labelled Compounds & Radiopharmaceuticals, 45, 857-866, 2002

6.Hiroki Namba, Kiyoshi Fukushi, Shin-ichiro Nagatsuka, Masaomi Iyo*, Hitoshi Shinotoh, Shuji Tanada, Toshiaki Irie: Positron emission tomography: quantitative measurement of brain acetylcholinesterase activity using radiolabeled substrates, Methods, 27, 242-250, 2002

7.Ming-Rong Zhang*, Akio Tsuchiyama*, Terushi Haradahira, Kenji Furutsuka*, Yuichirou Yoshida*, Takayo Kida*, Junko Noguchi*, Toshiaki Irie, Kazutoshi Suzuki: SYNTHESIS AND PRELIMINARY EVALUATION OF [18F]FEtP4A,A PROMISING PET TRACER FOR MAPPING ACETYLCHOLINESTERASE IN VIVO, Nuclear Medicine and Biology, 29(4), 463-468, 2002

8.Ming-Rong Zhang*, Terushi Haradahira, Jun Maeda*, Takashi Okauchi*, Koichi Kawabe*, Takayo Kida*, Junko Hojo*, Kazutoshi Suzuki, Tetsuya Suhara: Syntheses and pharmacological evaluation of two potent antagonists for dopamine D4 receptors:[11C]YM-50001 and N-[2-[4-(4-Chlorophenyl)-piperizin-l-yl]ethyl]-3-[11C]methoxybenzamide, Nuclear Medicine and Biology, 29, 233-241, 2002

9.Ming-Rong Zhang*, Terushi Haradahira, Jun Maeda*, Takashi Okauchi*, Koichi Kawabe*, Takayo Kida*, Shigeru Obayashi, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis and evaluation of 3-(4-chlorobenzyl)-8-[11C]methoxy-1,2,3,4-tetrahydrochromeno[3,4-c]pyridin-5-one:a PET tracer for imaging sigma1 receptors, Nuclear Medicine and Biology, 29, 469-476, 2002

10. Terushi Haradahira, Jun Maeda*, Takashi Okauchi*, Ming-Rong Zhang*, Junko Hojo*, Takayo Kida*, Takuya Arai, Fumihiko Yamamoto*, Shigeki Sasaki, Minoru Maeda*, Kazutoshi Suzuki, Tetsuya Suhara: Synthesis,in vitro and in vivo pharmacology of a C-11 labeled analog of CP-101,606,(+/-)threo-1-(4-hydroxyphenyl)-2-[4-hydroxy-4-(p-[11C]methoxyphenyl)piperidino]-1-propanol,as a PET tracer for NR2B subunit-containing NMDA receptors, Nuclear Medicine and Biology, 29, 517-525, 2002

11. Junko Noguchi*, Kazutoshi Suzuki: Automated synthesis of the ultra high specific activity of [11C]Ro15-4513 and its application in an extremely low concentration region to an ARG study, Nuclear Medicine and Biology, 30, 335-343, 2003

[らせん CT 肺がん検診システムの研究開発]

1.飯沼　武：宮城県における肺癌検診の有効性評価－数学モデルによる計算、肺癌の臨床、42(3)、169-173、2002

2.飯沼　武、松本　徹：日本の乳がん検診による乳がん死亡減少の定量的予測－２年感覚の場合、日本乳癌検診学会誌、11(3)、257-264、2002

3.Narifumi Suganuma*, Yukinori Kusaka*, Yomei Hiraga*, Yutaka Hosoda*, Hisao Shida*, Hiroshi Morikubo*, Tooru Matsumoto: Asbests-Related Pleural Abnormalities Detected by Chest X-ray, Journal of Occupational Health, 43, 365-370, 2002

4.滝沢　穂高*、五十嵐　亮*、奥村　俊昭*、山本　眞司*、中川　徹*、松本　徹、舘野　之男、飯沼　武、松本　満臣*: 胸部 X 線 CT 画像におけるすりガラス状陰影検出のための肺がん陰影検出手法の改良、Medical Imaging Technology、20(3)、194-202、2002

5.Kengyou Honda*, Kikuo Machida*, Makoto Hosono*, Tooru Matsumoto, Hirofumi Matsuda*, Motoo Ooshima*, Kiyoshi Koizumi*, Shigeru Kosuda*, Toshimitsu Momose*, Yutaka Mori*, Jun Hashimoto*, Yuji Shimizu*, et.al: Interobserver Variation in Diagnosis of Dementia by Brain Perfusion SPECT, Radiation Medicine, 20(6), 281-289, 2002

6.滝口　裕一*、潤間　隆宏*、長尾　啓一*、栗山　蕃之*、松本　徹、土川　仁*、藤村　香央理*、藤野　雄一*、鈴木　公典*、中山　富雄*、楠　洋子*、有澤　淳*、黒田　知純*: らせんＣＴを用いた肺癌検診における比較読影システムとネットワーク読影、胸部 CT 検診研究会誌、9(2)、88-92、2002

7.飯沼　武、舘野　之男、松本　徹：現行の肺癌検診における死亡率減少の推定－数学モデルによる方法、胸部 CT 検診研究会誌、9(3)、242-245、2002

8.飯沼　武、舘野　之男、松本　徹、曽根　脩輔*：長野県における胸部ＣＴ検診の肺癌死亡率減少の予測、胸部 CT 検診研究会誌、9(3)、246-249、2002

9.中山　富雄*、楠　洋子*、松本　徹、その他：費用効果比から算定したＣＴ検診の受信者負担額、胸部 CT 検診研究会誌、9(3)、256-259、2002

10.中山　富雄*、楠　洋子*、松本　徹：ＧＯＧＡＢＩＴネットワークを用いたＣＴ検診の遠距離読影システム、胸部 CT 検診研究会誌、9(3)、271-274、2002

11.滝沢　穂高*、山本　眞司*、中川　徹*、松本　徹、舘野　之男、飯沼　武、松本　満臣*：３次元マルコフ確定場モデルを用いた胸部Ｘ線ＣＴ像からの結節陰影の認識、電子情報通信学会論文誌. D-II, 情報・システム, II−パターン処理、J85-DⅡ(9)、1401-1412、2002

[（5）医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]
[医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]

1.Kanae Nishizawa, Masaki Matsumoto, Kazuo Iwai*, Ayako Tonari*, Takasi Yoshida*, Makoto Takayama*: Dose evaluation and effective dose estimation from multi detector CT, Japanese Journal of Medical Physics, 22, 152-158, 2002

[（6）脳機能研究]
[脳機能研究]

1.Tetsuya Suhara, Yoshiro Okubo*, Fumihiko Yasuno*, Yasuhiko Sudo*, Makoto Inoue*, Tetsuya Ichimiya*, Yoshifumi Nakashima*, Kazuhiko Nakayama*, Shuji Tanada, Kazutoshi Suzuki, Christer Halldin*, Lars Farde*: Decreased dopamine D2 receptor binding in the anterior cingulate cortex in schizophrenia., Archives of General Psychiatry, 59, 25-30, 2002

2.Tetsuya Ichimiya*, Tetsuya Suhara, Yasuhiko Sudo*, Yoshiro Okubo*, Kazuhiko Nakayama*, Masahiro Nankai*, Makoto Inoue*, Fumihiko Yasuno*, Akihiro Takano*, Jun Maeda*, Haruo Shibuya*: Serotonin Transporter Binding in Patients with Mood Disorders: A PET Study with [11C](+)McN5652, Biological Psychiatry, 51(9), 715-722, 2002

3.Sun Xue Zhi, Yoshinobu Harada, Chun Cui*, Rui Zhang*, Sentaro Takahashi, Yoshihiro Fukui*: Developmental characteristics of mice lacking the DNA excision repair gene XPG, Environmental Medicine, (46), 66-69, 2002

4.Akihiro Takano, Tetsuya Suhara, Yasuhiko Sudo*, Makoto Inoue, Kenji Hashimoto*, Ming-Rong Zhang*, Tetsuya Ichimiya*, Fumihiko Yasuno*, Kazutoshi Suzuki: Comparative evaluation of two serotonin transporter ligands in the human brain: [11C](+)McN5652 and [11C]cyanoimipramine, European Journal of Nuclear Medicine and Molecular Imaging, 29, 1289-1297, 2002

5.Youko Ikoma*, Tetsuya Suhara, Hinako Toyama, Tetsuya Ichimiya*, Akihiro Takano*, Yasuhiko Sudo*, Makoto Inoue*, Fumihiko Yasuno*, Kazutoshi Suzuki: Quantitative analysis for estimating binding potential of brain serotonintrasporters with [11C]McN5652., Journal of Cerebral Blood Flow and Metabolism, 22, 490-501, 2002

6.Sentaro Takahashi, Sun Xue Zhi, Yoshihisa Kubota, Nobuhiko Takai, Kumie Nojima: Histological and elemental changes in the rat brain after local irradiation with carbon ion beams, Journal of Radiation Research, 43, 143-152, 2002

7.Sun Xue Zhi, Sentaro Takahashi, Yoshihisa Kubota, Hiroshi Sato, Chun Cui*, Yoshihiro Fukui*, Minoru Inoue*: Types and Three-Dimensional Distribution of Neuronal Ectopias in the Brain of Mice Prenatally Subjected to X-irradiation, Journal of Radiation Research, 43, 89-98, 2002

8.Masahiro Yamamoto*, Tetsuya Suhara, Yoshiro Okubo*, Tetsuya Ichimiya, Yasuhiko Sudo*, Makoto Inoue, Akihiro Takano, Fumihiko Yasuno, Kyosan Yoshikawa, Shuji Tanada: Age-related decline of serotonin transporters in living human brain of healthy males, Life Sciences, 71, 751-757, 2002

9.Fumihiko Yasuno*, Akterh Hasnine*, Tetsuya Suhara, Tetsuya Ichimiya*, Yasuhiko Sudo*, Makoto Inoue*, Akihiro Takano*, Ou Tan*, Tomomichi Ando*, Hinako Toyama: Template-Based Method for MultipleVolumes of Interest of Human Brain PET Images, NeuroImage, 16, 577-586, 2002

10. Shigeru Obayashi, Tetsuya Suhara, Yuji Nagai, Jun Maeda, Sayaka Hihara*, Atsushi Iriki*: Macaque prefrontal activity associated with extensive tool use., Neuroreport, 13, 2349-2354, 2002

11. Jun Maeda, Tetsuya Suhara, Takashi Okauchi, Junichi Senba: Different roles of group I and group II metabotropic glutamate receptors on phencyclinine-induced dopamine release in the rat prefrontal cortex, Neuroscience Letters, 336(3), 171-174, 2003

12. Shigeru Obayashi, Tetsuya Suhara, Koichi Kawabe*, Takashi Okauchi, Jun Maeda, Yuji Nagai, Atsushi Iriki*: Fronto-parieto-cerebellar interaction associated with intermanual transfer of monkey tool-use learning, Neuroscience Letters, 339, 123-126, 2003

13. Tetsuya Suhara, Takashi Okauchi*, Yasuhiko Sudo*, Akihiro Takano*, Koichi Kawabe*, Jun Maeda*, S Kapur*: Clozapine can induce high dopamine D2 receptor occupancy in vivo., Psychopharmacology, 160, 107-112, 2002

14. Takashi Nakayama, Tetsuya Suhara, Yoshiro Okubo, Tetsuya Ichimiya, Fumihiko Yasuno, Jun Maeda, Akihiro Takano, Tomoyuki Saijo, Kazutoshi Suzuki: In vivo drug action of tandospirone at 5-HT1A receptor examined using positron emission tomography and neuroendocrine response, Psychopharmacology, 165, 37-42, 2002

15. Sun Xue Zhi, Sentaro Takahashi, Chun Cui*, Minoru Inoue*, Yoshihiro Fukui*: Distribution of calbindin-D28K immunoreactive neurons in rat primary motor cortex, The Journal of Medical Investigation : JMI, 49(1,2), 35-39, 2002

16. Sun Xue Zhi, Sentaro Takahashi, Chun Cui*, Rui Zhang*, Hiromi Sakata-Haga*, Kazuhiko Sawada*, Yoshihiro Fukui*: Normal and abnormal neuronal migration in the developing cerebral cortex, The Journal of Medical Investigation : JMI, 49(3,4), 97-110, 2002

17. Taeko Miyazaki, Tetsuo Iwami*, Hiroaki Somiya*, Benno Meyerrochow*: Retinal Topography of Ganglion Cells and Putative UV-Sensitive Cones in Two Antarctic Fishes: Pagothenia borchgrevinki and Trematomus bernacchii (Nototheniidae), Zoological Science, 19, 1223-1229, 2002

[(7)原子力基盤技術総合的研究]

[マルチトレーサーの製造技術の高度化と先端科学技術研究への応用をめざした基盤研究]

1.Takehiro Tomitani, Masahiko Hirasawa: Analytical image reconstruction of cone-beam projections from limited angle Compton camera data, IEEE Transactions on Nuclear Science, 50, 1602-1608, 2003

2.Masahiko Hirasawa, Takehiro Tomitani: An analytical image reconstruction algorithm to compensate for scattering angle broadening in Compton cameras, Physics in Medicine and Biology, 48, 1009-1026, 2003

[ラドン健康影響研究]

1.Kumiko Fukutsu, Yuji Yamada, Michikuni Shimo: Dose Response of Tracheal Epithelial Cells to Ionizing Radiation in Air-Liquid Interface Cultures, High Levels of Natural Radiation and Radon Areas : Radiation Dose and Health Effects : Proceedings of the 5th International Conference on High Levels of Natural Radiation and Radon Areas, held in Munich,Germany on September 4 to 7, 2000 vol.II :Poster Presentation(BfS Schriften 24-2002), 475-477, 2002

[放射性核種の土壌生体圏における移行及び動的解析モデルに関する研究]

1.Keiko Tagami, Shigeo Uchida: Global Fallout Technetium-99 Distribution and Behavior in Japanese Soils, Journal of Nuclear and Radiochemical Sciences, 3, 1-5, 2002

2.Shigeo Uchida, Keiko Tagami, Masahiro Saitou*: Determination of rhenium traces in river water by Q-ICP-MS and HR-ICP-MS., Journal of Radioanalytical and Nuclear Chemistry, 255(2), 329-333, 2003

[

個人業績]

[課題外]

[課題外]

1.Kiichi Ishiwata*, Nobuo Ogi*, Nobutaka Hayakawa*, Keiichi Oda*, Tsukasa Nagaoka*, Hinako Toyama, Fumio Suzuki*, Kazutoyo Endo*, Akira Tanaka*, Michio Senda*: Adenosine A2A receptor imaging with［11C］KF18446 PET in the rat brain after quinolinic acid lesion:Comparison with the dopamine receptor imaging, Annals of Nuclear Medicine, 16(7), 467-475, 2002

2.Yojiro Hashiguchi*, Takeshi Sekine*, Shingo Katou, Hirohiko Sakamoto*, Yoji Nishimura*, Tomoko Kazumoto*, Mizuyoshi Sakura*, Yoichi Tanaka*: Indicators for Surgical Resection and Intraoperative Radiation Therapy for Pelvic Recurrence of Colorectal Cancer, Diseases of the Colon and Rectum, 46, 31-39, 2003

3.Naomi Harada*, Masashi Kusakabe, et.al: Is amino acid chronology applicable to the estimation of the geological age of siliceous sediments?, Earth and Planetary Science Letters, 198, 257-266, 2002

4.Yuhei Shimada*, Motohiro Kiyosawa*, Keiichi Oda*, Fumio Suzuki*, Kiichi Ishiwata*, Nobuo Ogi*, Nobutaka Hayakawa*, Hiroyuki Umegaki*, Tsukasa Nagaoka*, Kazutoyo Endo*, Akira Tanaka*, Michio Senda*, Tadashi Nariai*, Hinako Toyama, Kenichirou Ono*: Mapping adenosine A1 receptors in the cat brain by positron emission tomography with [11C] MPDX., Nuclear Medicine and Biology, 29, 29-37, 2002

5.Kiichi Ishiwata*, Nobuo Ogi*, Nobutaka Hayakawa*, Hiroyuki Umegaki*, Tsukasa Nagaoka*, Keiichi Oda*, Hinako Toyama, Kazutoyo Endo*, Akira Tanaka*, Michio Senda*: Positron emission tomography and ex vivo and in vitro autoradiography studies on dopamine D2-like receptor degeneration in the quinolinic acid-lesioned rat striatum:comparison of [11C] raclopride, [11C] nemonapride and [11C] N-methylspiperone, Nuclear Medicine and Biology, 29, 307-316, 2002

6.Megumi Toyoshima*, Shogo Takinami*, Kotaro Hieda*, Yoshiya Furusawa, Tomoe Negishi*: The involvement of cell cycle checkpoint-mutations in the mutagenesis induced in Drosophila by a longer wavelength light band of solar UV, Photochemical and Photobiological Sciences, 1, 178-183, 2002

[病理学的放射線照射効果判定法の確立・剖検時画像診断による、新しい剖検法の構築]

1.江澤　英史、米山　隆一、神立　進、清水　一範、吉川　京燦、小畠　隆行、岸本　理和、張ヶ谷　健一*、辻井　博彦: Autopsy Imaging (AI) −新しい剖検概念を目指して−、病理と臨床、20、633-641、2002

[放射線安全研究関連（推進室担当部）]

1.Shunsaku Sasaki: Dose-response relationship for lifetime excess mortality and temporal pattern of manifestation in mice irradiated neonatally with gamma rays, Journal of Radiation Research, 43, 313-323, 2002

2.Shunsaku Sasaki: Age dependence of susceptibility for long-term effects of ionizing radiation, Radiation and Homeostasis : Proceedings of the International Symposium of Radiation and Homeostasis, held in Kyoto, Japan, 13-16 July 2001(International Congress Series ; no. 1236), 447-454, 2002

[受託研究及び行政のために必要な業務]
[科学技術特別研究員試験研究費]
[RI 標識遺伝子の画像化と定量法の開発に関する基礎研究]

1.Hong Zhang, Tian Mei*, Noboru Oriuchi*, Tetsuya Higuchi*, Shuji Tanada, Keigo Endou*: Oncological diagnosis using postiron coincidence gamma camera with fluorodeoxyglucose in comparison with dedicated PET, British Journal of Radiology, 75, 409-416, 2002

[文部科学省フェロー]
[高 LET 重粒子線によって誘発される DNA 鎖切断と細胞のバイスタンダー効果]

1.Chunlin Shao, Yoshiya Furusawa, Mizuho Aoki, Hideki Matsumoto*, Koichi Ando: Nitric oxide-mediated bifunctional bystander effect induced by heavy-Ion Radiation in human salivary grand neoplastic cells, International Journal of Radiation Biology, 78, 837-844, 2002

[重粒子共同利用研究]
[治療・診断]
[Best cases from the AFIP]

1.Riwa Kishimoto, Yoshiaki Watanabe*, Michio Shimizu*: Best cases from the AFIP : invasive ductal carcinoma with osteoclast-like giant cells., Radiographics, 22(3), 691-695, 2002

[がんの機能診断法に関する PET の応用研究]

1.田村　克巳、吉川　京燦、辻井　博彦、村田　啓: 食道癌の PET 診断、日本外科学会雑誌、103、325-330、2002

[物理・工学]
[Charge Removal Cross Sections and Depth-Dose Distributions of Different High Energy Ions in Tissue-Like Targets]

1.Alexandar Golovchenko*, Jure Skvarc*, Nakahiro Yasuda, Giacomelli M*, S.p. Tretyakova*, Rodomir Ilic*: Total charge-changing and partial cross-section measurements in the reactions of 110-250 MeV/nucleon 12C in carbon, paraffin, and water, Physical Review C, 66, 014609-1-014609-8, 2002

[カラー写真を用いた重イオン粒子の飛跡の測定法の開発]

1.久下　謙一*、安田　仲宏、熊谷　宏*、青木　直和*、長谷川　朗*: Colored tracks of heavy ion particles using photographic color film、482、558-564、2002

[重イオンによる放射化断面積の系統的測定]

1.Hiroshi Yashima*, Yoshitomo Uwamino*, Hiroshi Sugita*, Takashi Nakamura, Sachiko Ito*, Akifumi Fukumura: Projectile dependence of radioactive spallation products induced in copper by high-energy heavy ions, Physical Review C, 66, 044607-1-044607-11, 2002

[重イオン生成中性子の物質内挙動と透過に関する研究]

1.Michiya Sasaki*, Noriaki Nakao*, Takashi Nakamura, Tokushi Shibata*, Akifumi Fukumura: Measurements of the response functions of an NE213 organic liquid scintillator to neutrons up to 800 MeV., Nuclear Instruments & Methods in Physics Research Section A, 480, 440-447, 2002

2.Michiya Sasaki*, Noriaki Nakao*, Tomoya Nunomiya*, Takashi Nakamura, Akifumi Fukumura, Masashi Takada: Measurements of high energy neutrons penetrated through iron shields using the Self-TOF detector and an NE213 organic liquid scintillator, Nuclear Instruments & Methods in Physics Research Section B, 196, 113-124, 2002

3.Michiya Sasaki*, Eunju Kim*, Tomoya Nunomiya*, Takashi Nakamura, Noriaki Nakao*, Tokushi Shibata*, Yoshitomo Uwamino*, Sachiko Ito*, Akifumi Fukumura: Measurements of High-Energy Neutrons Penetrated Through Concrete Shields Using Self-TOF, NE213 and Activation Detectors, Nuclear Science and Engineering, 141, 140-153, 2002

[放射線に関するライフサイエンス研究]
[分子イメージング研究]
[分子プローブ・放射薬剤合成技術の研究開発]

1.Kaoru Kobayashi*, Rie Hosoi*, Sotaro Momosaki*, Sachiko Koike, Koichi Ando, Tsunehiko Nishimura*, Osamu Inoue*: Enhancement of the relative uptake of 18F-FDG in mouse fibrosarcoma by rolipram, Annals of Nuclear Medicine, 16, 507-510, 2002

2.Soutarou Momosaki*, Sun Xue Zhi, Nobuhiko Takai, Rie Hosoi*, Osamu Inoue*, Sentaro Takahashi: Changes in histological construction and decrease in 3H-QNB binding in the rat brain after prenatal X-irradiation, Journal of Radiation Research, 43, 277-282, 2002

【平成15年度】

[プロジェクト研究]

[（1）放射線先進医療研究]

[高度画像診断技術の研究開発　イ）4次元CT装置の開発]

1.Masahiro Endo, Shinichiro Mori, Takanori Tsunoo, Susumu Kandatsu, Shuji Tanada, Hiroshi Aradate*, Yasuo Saito*, Hiroaki Miyazaki*, Kazumasa Sato*, Satoshi Matsushita*, Masahiro Kusakabe*: Development and performance evaluation of the first model of 4D CT-scanner, IEEE Transactions on Nuclear Science, 50(5), 1667-1671, 2003

[高度画像診断技術の研究開発　ロ）次世代PET装置の開発]

1.Shigenori Shimizu, Keiji Sumiya*, Hiroyuki Ishibashi*, N Senguttvan*, Redkin BS*, Mitsuru Ishii, Masaaki Kobayashi, Kenzo Susa*, Hideo Murayama: Effect of Mg, Zr, Ta- doping on scintillation properties of Gd2SiO5:Ce crystal., IEEE Transactions on Nuclear Science, 50(4), 778-781, 2003

2.Taiga Yamaya, Takashi Obi, Naoki Hagiwara*, Masahiro Yamaguchi*, Koichi Kita*, Nagaaki Oyama*, Keishi Kitamura, Tomoyuki Hasegawa, Hideaki Haneishi, Hideo Murayama: DOI-PET image reconstruction with accurate system modeling that reduces redundancy of imaging system., IEEE Transactions on Nuclear Science, 50(5), 1404-1409, 2003

3.Takehiro Kasahara, Hideo Murayama, Tomohide Omura*, Takaji Yamashita*, Hiroyuki Ishibashi*, Hideyuki Kawai, Naoko Inadama, Takaya Umehara, Narimichi Orita, Tomoaki Tsuda: Improvement of the depth of interaction detector for PET on full energy pulse height uniformity., IEEE Transactions on Nuclear Science, 50(5), 1439-1444, 2003

4.吉田　英治、村山　秀雄、清水　啓治*、北村　圭司*：次世代ＰＥＴ装置におけるデータ収集システムの基礎的検討、医学物理、23(1)、65-72、2003

5.山田　暁、羽石　秀昭、稲玉　直子、村山　秀雄：次世代ＰＥＴ用 Depth of interaction(DOI)検出器のシミュレーション(1)、医学物理、23(1)、81-92、2003

6.山谷　泰賀、小尾　高史、山口　雅浩*、喜多　紘一*、大山　永昭*、長谷川　智之、羽石　秀昭、村山　秀雄：観測系の冗長性を考慮した代数的な DOI-PET 画像再構成、Medical Imaging Technology、21(2)、166-169、2003

[重粒子線がん治療臨床試験]

1.Tatsuya Ohno, Yuuko Nakayama*, Soken Nakamoto*, Shingo Katou, Reiko Imai, Tetsuo Nonaka*, Hitoshi Ishikawa*, Koichi Harashima*, Yoshiyuki Suzuki*: Measurement of serum Squamous Cell Carcinoma antigen levels as a predictor of radiation response in patients with carcinoma of uterine cervix, Cancer, 97(12), 3114-3120, 2003

2.Syohei Koyama*, Hirohiko Tsujii: Proton Beam Therapy with High-Dose Irradiation for Superficial and Advanced Esophageal Carcinomas, Clinical Cancer Research, 9, 3571-3577, 2003

3.Nobuharu Yamamoto, Junetsu Mizoe, Azusa Hasegawa, Hirohiko Tsujii, et.al: Primary sebaceous carcinoma of the lacrimal gland treated by carbon ion radiotherapy., International Journal of Clinical Oncology, 8(6), 386-390, 2003

4.Akira Iyoda*, Masato Suzuki*, Masako Chiyo*, Seiri Yoshida*, Yasuo Sekine*, Kiyosi Shibuya*, Toshihiko Iizasa*, Yukio Saitoh*, Kennzou Hiroshima*, Masayuki Baba, Takehiko Fujisawa*: A new thin-type bronchoscope improves diagnostic accuracy of peripheral pulmonary carcinoma,, Japanese Journal of Lung Cancer, 10, 387-389, 2003

5.Naoyoshi Yamamoto*, Tadaaki Miyamoto, Hideki Nishimura*, Masashi Koto*, Hirohiko Tsujii, Hidemi Owada*, Takehiko Fujisawa*: Preoperative carbon ion radiotherapy foy non-small cell lung cancer with chest wall invasion-pathological findings concerning tumor response and radiation induced lung injury in the resected organs., Lung Cancer, 42, 87-95, 2003

6.Masahiko Sawajiri*, Junetsu Mizoe: Changes in bone volume after irradiation with carbon ions, Radiation and Environmental Biophysics, 42, 101-106, 2003

7.Masahiko Sawajiri*, Junetsu Mizoe, et.al: Changes in osteoclasts after irradiation with carbon ion particles, Radiation and Environmental Biophysics, 42, 219-223, 2003

8.Tadaaki Miyamoto, Naoyoshi Yamamoto*, Hideki Nishimura*, Masashi Koto*, Hirohiko Tsujii, Junetsu Mizoe, Tadashi Kamada, Hirotoshi Katou, Shigeru Yamada, Shinroku Morita, Kyosan Yoshikawa, Susumu Kandatsu, Takehiko Fujisawa*: Carbon ion radiotherapy for stage I non-small cell lung cancer, Radiotherapy and Oncology, 66, 127-140, 2003

9.Kouichirou Akakura*, Hirohiko Tsujii, Shinroku Morita, Hiroshi Tsuji, Tsuguo Yagishita*, Shigeo Isaka*, Haruo Itou*, Hideyuki Akaza*, Makoto Hata*, Shin Fujime*, Masaoki Harada*, Jun Shimazaki*: Phase I/II Clinical Trials of Carbon Ion Therapy for Prostate Cancer, The Prostate, 58, 252-258, 2004

[（2）放射線感受性遺伝子研究]

[放射線感受性遺伝子研究]

1.Ken Higashimoto*, Urano Takeshi*, Kazumitsu Sugiura*, Hitomi Yatsuki*, Keiichiro Joh*, Wei Zhao*, Mayumi Iwakawa, Hirofumi Ohashi*, Oshimura Mitsuo*, Norio Niikawa*, Tsunehiro Mukai*, Hidenobu Soejima*: Loss of CpG Methylation Is Strongly Correlated with Loss of Histone H3 Lysine 9 Methylation at DMR-LIT1 in Patients with Beckwith-Wiedemann Syndrome, American Journal of Human Genetics, 73, 948-956, 2003

2.Stefano Bonassi*, Monica Neri*, Cecilia Lando*, Marcello Ceppi*, Yi Ping Lin*, Wushou Peter Chang*, Nina Holland*, Micheline Kirsh Volders*, Errol Zeiger*, Michael Fenech*, Sadayuki Ban: Effect of smoking habit on the frequency of micronuclei in human lymphocytes: results from the Human MicroNucleus project, Reviews in Mutation Research : A Section of Mutation Research, 543, 155-166, 2003

[（3）放射線人体影響研究]

[宇宙放射線による生体影響と防護に関する研究]

1.Chikako Kinoshita*, Takeshi Yaoi*, Kumie Nojima, Shinji Fushiki*: The Effects of Heavy Ion Particles on the Developing Murine Cerebellum, with Special Reference to Cell Death, Acta Histochemica et Cytochemica, 36, 145-151, 2003

2.Yukio Uchihori, Eric Benton*, James Moeller*, G Bendrick*: Radiation measurements aboard NASA ER-2 high altitude aircraft with the Liulin-4J portable spectrometer, Advances in Space Research, 32(1), 41-46, 2003

3.Masahiro Takeda*, Naoto Sakaki*, Ken Honda*, Michiyuki Chikawa*, Masaki Fukushima*, Naoaki Hayashida*, Naoya Inoue*, Kenji Kadota*, Fumio Kakimoto*, Kouichi Kamata*, Setsuo Kawaguchi*, Saburo Kawakami*, Yoshiya Kawasaki*, Norio Kawasumi*, A Mahrous*, Keiichi Mase*, Tomoko Mizobuchi*, Yuichirou Morizane*, Motohiko Nagano*, Hideyuki Ohoka*, Satoko Osone*, Makoto Sasaki*, Masahiko Sasano*, Hirohiko Shimizu*, Kenji Shinozaki*, Masahiro Teshima*, Reiko Torii*, Itsurou Tsushima*, Yukio Uchihori, Tokonatsu Yamamoto*, Shigeru Yoshida*, Hisashi Yoshii*: Energy determination in the Akeno Giant Air Shower Array experiment, Astroparticle Physics, 19, 447-462, 2003

4.Masao Suzuki, Chizuru Tsuruoka, Tatsuaki Kanai, Takeshi Kato*, Fumio Yatagai*, Masami Watanabe*: Qualitative and quantitative difference in mutation induction between carbon- and neon-ion beams in normal human cells, Biological Sciences in Space, 17(4), 302-306, 2004

5.Satoshi Fukuda, Satoru Tsuchikura*, Haruzo Iida: Age-related Changes in Blood Pressure, Hematological Values, Concentrations of Serum Biochemical Constituents and Weights of Organs in the SHR/lzm,SHRSP/lzm and WKY/lzm, Experimental Animals, 53(1), 67-72, 2004

6.Hiroshi Yasuda, Tatsuyo Ishidoya*: Time-resolved Photoluminescence from a phosphate glass (GD-300) irradiated with heavy ions and gamma rays, Health Physics, 84, 373-375, 2003

7.Ryuichi Okayasu, Kaoru Takakura*, S Poole*, Joel S. Bedford*: Radiosensitization of Normal Human Cells by LY294002: Cell Killing and the Rejoining of DNA and Interphase Chromosome Breaks, Journal of Radiation Research, 44(4), 329-333, 2003

8.佐藤　淳、福田　俊、高橋　直之*、佐藤　れえ子*、安田　準*、内藤　善久*：乳牛のカルシウム動態と骨代謝に及ぼす EDTA 投与の影響、獣医畜産新報、56(9)、710-714、2003

9.Hiroshi Yamaguchi, Yukio Satou, Hitoshi Imaseki, Nakahiro Yasuda, Tsuyoshi Hamano, Yoshiya Furusawa, Masao Suzuki, Takahiro Ishikawa, Teiji Mori, Kenichi Matsumoto, Teruaki Konishi, Masae Yukawa, Fuminori Soga: Single particle irradiation system to cell(SPICE) at NIRS, Nuclear Instruments & Methods in Physics Research Section B, 210, 292-295, 2003

10. Takahashi Takahashi*, Nakahiro Yasuda, et.al: Observation of double- hypernuclei and lambda-lambda interaction, Nuclear Physics A, A721, 951c-954c, 2003

11. Giacomelli M*, J Skvarc*, Rodomir Ilic*, Nakahiro Yasuda, et.al: The measurement of the fragment emission angles in the reactions of < 135 MeV/u 12C and 16O in tissue equivalent targets, Radiation Measurements, 36, 329-334, 2003

[低線量放射線の生体影響に関する総合的研究]

1.Kyoko Yasumura*, Isamu Sugimura*, Kazuei Igarashi*, Shizuko Kakinuma, Mayumi Nishimura, Masahiro Doi, Yoshiya Shimada: Altered expression of Tfg and Dap3 in Ikaros-defective T cell lymphomas induced by X-irradiation in B6C3F1 mice, British Journal of Haematology, 124(2), 179-185, 2004

2.Hideo Tsuji, Hiroko Ishii-Ohba, Hideki Ukai, Takanori Katsube, Toshiaki Ogiu: Radiation-induced deletions in the 5' end region of Notch1 lead to the formation of truncated proteins and are involved in the development of mouse thymic lymphomas, Carcinogenesis, 24, 1257-1268, 2003

3.Ryouka Kawahara*, Manabu Matsuda*, Tatsuhiko Imaoka, Takao Mori*: Up-regulation of thymosin beta4 gene expression in experimentally induced uterine adenomyosis in mice, In Vivo, 17(6), 561-566, 2003

4.Yoshiya Shimada, Mayumi Nishimura, Shizuko Kakinuma, Toshiaki Ogiu, Hirokazu Fujimoto*, Ayumi Kubo, Junya Nagai, Keizou Tano*, Shinji Yoshinaga: Genetic susceptibility to thymic lymphomas and K-ras gene mutation in mice after exposure to X-rays and N-ethyl-N-nitrosourea, International Journal of Radiation Biology, 79, 423-430, 2003

5.Mayumi Nishimura, Shizuko Kakinuma, Daisuke Yamamoto*, Yoshiro Kobayashi*, Gen Suzuki*, Toshihiko Sado, Yoshiya Shimada: Elevated Interleukin-9 Receptor Expression and Response to Interleukins-9 and -7 in Thymocytes during Radiation-Induced T-Cell Lymphomagenesis in B6C3F1 Mice, Journal of Cellular Physiology, 198(1), 82-90, 2004

6.Yasushi Ohmachi, Yuka Ishida, Takeshi Hiraoka, Tsuyoshi Hamano, Shinji Fushiki, Toshiaki Ogiu: Postnatal Changes in Mice Exposed In Utero to Fast Neutrons, Journal of Toxicologic Pathology, 17(1), 63-68, 2004

7.Hideki Ukai, Hiroko Ishii-Ohba, Maki Ukai-tadenuma*, Toshiaki Ogiu, Hideo Tsuji: Formation of an Active Form of the Interleukin-2/15 Receptor beta-Chain by Insertion of the Intracisternal A Particle in a Radiation-Induced Mouse Thymic Lymphoma and Its Role in Tumorigenesis, Molecular Carcinogenesis, 37, 110-119, 2003

8.Kazuei Mita*, Mitsuoki Morimyo, Kazuhiro Okano*, Yoshiko Koike*, Junko Nohata*, Toru Shimada*, et.al: The construction of an EST database for Bombyx mori and its application, Proceedings of the National Academy of Sciences of the United States of America, 100, 14121-14126, 2003

9.Ikuko Furuno-Fukushi, Ken Ichi Masumura*, Takeshi Furuse, Yuko Noda, Masahiko Takahagi, Toshiyuki Saito, Yuko Fujimori, Hiroshi Suzuki*, Anthony Wynshaw-boris*, Takehiko Nohmi*, Kouichi Tatsumi: Effect of Atm Disruption on Spontaneously Arising and Radiation-Induced Deletion Mutations in Mouse Liver, Radiation Research, 160(5), 549-558, 2003

10. Fumiaki Watanabe*, Ken-ichi Shinohara*, Hirobumi Teraoka*, Kenshi Komatsu*, Kouichi Tatsumi, Fumio Suzuki*, Takashi Imai, Masashi Sagara, Hideo Tsuji, Toshiaki Ogiu: Involvement of DNA-dependent protein kinase in down-regulation of cell cycle progression., The International Journal of Biochemistry & Cell Biology, 35, 432-440, 2003

[（4）放射線障害研究]

[緊急被ばく医療に関する研究]

1.Hisayoshi Kondo, Sang-hee Park, Keiko Watanabe, Yasuhiro Yamamoto, Makoto Akashi: Polyphenol (-)-epigallocatechin gallate inhibits apoptosis induced by irradiation in human HaCaT keratinocytes, Biochemical and Biophysical Research Communications, 316, 59-64, 2004

2.Sakae Tanosaki*, Makoto Akashi, et.al: Effect of ligands of nuclear hormone receptors on sodium/iodide symporter expression and activity in breast cancer cells., Breast Cancer Research and Treatmen, 79(3), 335-345, 2003

3.Toshiyasu Hirama, Sakae Tanosaki*, Susumu Kandatsu, Norikazu Kuroiwa, Tadashi Kamada, Hiroshi Tsuji, Shigeru Yamada, Hirotoshi Katou, Naoyoshi Yamamoto, Hirohiko Tsujii, Gen Suzuki*, Makoto Akashi: Initial

medical management of patients severely irradiated in the Tokai-mura criticality accident, British Journal of Radiology, 76, 246-253, 2003

4.Misao Hachiya, Masuhiro Takada*, Kenji Sekikawa*, Makoto Akashi: Endogenous production of TNFalpha is a potent trigger of NFkB activation by irradiation in Human monocytic cells THP-1, Cytokine, 25(4), 147-154, 2004

5.Satoshi Fukuda, Haruzo Iida, Xueming Yan*, Yuyuan Xie*, Roman Burgda*, Theodorine Bailly*: Efficacies of three chelating agents on removal of plutonium in rats: comparison of CBMIDA, 3,4,3-LIHOPO and Ca-DTPA, Japanese Journal of Health Physics, 38(1), 62-67, 2003

6.河村　砂織、西澤　かな枝、平間　敏靖、野田　豐、平岡　武、近藤　久禎、芳田　典幸、宮後　法博、蜂谷　みさを、早田　勇、明石　真言：国内で起きた放射線治療装置設置中の作業従事者への放射線被ばく事故の特徴と線量評価、医学物理、23(3)、173-183、2003

7.Hiroshi Ishihara, Izumi Tanaka, Hong Wan*, Cheerarattana Cheeramakara*: Disappearance of Nuclear Binding Proteins Specifically Bound to the Upstream Region of the Interleukin-1 beta Gene Immediately after Irradiation of Mouse Macrophages, Journal of Radiation Research, 44(2), 117-123, 2003

8.Manabu Koike, Aki Koike: Subcellular localization and molecular mechanisms of nuclear transport of multifunctional Ku70 and Ku80 proteins, Recent Research Developments in Biophysics and Biochemistry, 3, 141-158, 2003

9.Yoko Hirabayashi, Kazuko Yoshida, Shin-ichi Aizawa*, Yukio Kodama*, Jun Kanno*, Yuji Kurokawa*, Isao Yoshimura*, Tohoru Inoue*: Evaluation of nonthreshold leukemogenic response to methyl nitrosourea in p53-deficient C3H/He mice, Toxicology and Applied Pharmacology, 190, 251-261, 2003

10.藤元　憲三：環境の放射線防護への動き、放射線と地球環境 ： 生態系への影響を考える、19-27、2003

[基礎的・萌芽的研究]
[理事長調整費による研究課題]
[PIXE分析における分析値の品質保証に関わる基盤データ取得のための研究]

1.Tsuyoshi Hamano, Hitoshi Imaseki, Masae Yukawa, Takahiro Ishikawa, Hiroyuki Iso*, Kenichi Matsumoto*: Diagnosis of Spatial Resolution for Microbeam Scanning PIXE using STIM Method and CR-39 Track Detector in PASTA, International Journal of PIXE, 13(1&2), 37-43, 2004

[ゲノム安定性保持における新規核タンパク質NP95の役割]

1.Ian Marc Bonapace*, Lucia Latella*, Roberto Papait*, Francesco Nicassio*, Alessandra Sacco*, Masahiro Muto, Marco Crescenzi*, Pier Paolo Di Fiore*: Np95 is regulated by E1A during mitotic reactivation of terminally differentiated cells and is essential for S phase entry, Journal of Cell Biology, 157, 909-914, 2002

[海水中微量元素である鉄濃度調節による海洋二酸化炭素吸収機能の解明]

1.Atsushi Tsuda*, Shigenobu Takeda*, Hiroaki Saito*, Jun Nishioka*, Yukihiro Nojiri*, Isao Kudo*, Hiroshi Kiyosawa*, Akihiro Shiomoto*, Keir Imai*, Tsuneo Ono*, Akifumi Shimamoto*, Daisuke Tsumune*, Takeshi Yoshimura*, Tatsuo Aono, Akira Hinuma*, Masatoshi Kinugasa*, Koji Suzuki*, Yoshiki Sohrin*, Yoshifumi Noiri*, Heihachiro Tani*, Yuji Deguchi*, Nobuo Tsurushima*, Hiroshi Ogawa*, Kimio Fukami*, Kenshi Kuma*, Toshiro Saino*: A Mesoscale Iron Enrichment in the Western Subarctic Pacific Induces a Large Centric Diatom Bloom, Science, 300, 958-961, 2003

[固体飛跡検出器を用いた大線量中性子計測法の確立と高エネルギー中性子線量計測法の検討]

1.Hiroyuki Takahashi*, Kazue Yokoi*, Daichi Fukuda*, Masaharu Nakazawa*, Toshikazu Majima*, Nakahiro Yasuda, Mikio Yamamoto: Development of a new multi-grid-type microstrip gas chamber, Nuclear Instruments & Methods in Physics Research Section A, 477, 13-16, 2002

[頭頸部非扁平上皮癌における各染色体欠失状況と癌抑制遺伝子の異常状況の解析]

1.Nobuharu Yamamoto, Junetsu Mizoe, Hideyuki Numasawa*, Hirohiko Tsujii, Takahiko Shibahara*, Hiroyasu Noma: Allelic loss on chromosomes 2q, 3p and 21q: Possibly a poor prognostic factor in oral squamous cell carcinoma., Oral Oncology, 39(8), 796-805, 2003

[放射性物質の存在位置と核種の遠隔同定法の研究]

1. awa: Developments of directional detectors with NaI(Tl)/BGO scintillators, Nuclear Instruments & Methods in Physics Research Section B, (213), 255-259, 2004

[基盤研究]

[（1）環境系基盤研究]

[ラドンの環境中における動態と生物影響に関する研究]

1.Hidenori Yonehara: Safe Management of Spent Radiation Source (3) Current Status of Spent Radiation Source Management in Japan, Japanese Journal of Health Physics, 38(2), 161-163, 2003

2.Michikuni Shimo, Masato Sugino, Harumi Hatano*: Measurements of Radon Concentration in Water of Campus, Dormitory and Student Home in South Area of Gifu Prefecture and Northwest Area of Aichi Prefecturere, Japanese Journal of Health Physics, 38(3), 261-266, 2003

3.Hirokazu Ichitsubo, Yuji Yamada, Michikuni Shimo, Akira Koizumi: Development of a radon-aerosol chamber at NIRS - general design and aerosol performance, Journal of Aerosol Science, 35, 217-232, 2004

4.Kumiko Fukutsu, Yuji Yamada, Shinji Tokonami, Takao Iida*: A new graded screen array for radon progeny size measurements and its numerical verification, Journal of Atmospheric Electricity, 23(2), 49-56, 2003

5.Kainan Sun*, Qiuju Guo*, Weihai Zhuo: Feasibility for mapping radon exhalation rate from soil in China, Journal of Nuclear Science and Technology, 41(1), 86-90, 2004

6.Tetsuo Ishikawa, Yuji Yamada, Kumiko Fukutsu, Shinji Tokonami: Deposition and clearance for radon progeny in the human respiratory tract, Radiation Protection Dosimetry, 105, 143-148, 2003

7.Tetsuo Ishikawa, Yukinori Narazaki, Yumi Yasuoka, Shinji Tokonami, Yuji Yamada: Bio-kinetics of radon ingested from drinking water, Radiation Protection Dosimetry, 105, 65-70, 2003

8.Shinji Tokonami, Masahide Furukawa, Yuji Yamada, et.al: Characteristics of radon and its progeny concentrations in air-conditioned office buildings in Tokyo, Radiation Protection Dosimetry, 106(1), 71-75, 2003

9.Shinji Tokonami, Takao Matsuzawa*, Tetsuo Ishikawa, Takeshi Iimoto, Hidenori Yonehara, Yuji Yamada: Changes of indoor aerosol characteristics and their associated variation on the dose conversion factor due to radon progeny inhalation, Radioisotopes, 52(6), 285-292, 2003

10. Yumi Yasuoka*, Tadashi Ishii*, Yasuhide Kataoka*, Tsuyoshi Kubo*, Hirofumi Suda*, Shinji Tokonami, Tetsuo Ishikawa, Masaki Shinogi*: Determination of Radon Concentration in Water Using Liquid Scintillation Counter, Radioisotopes, 53(3), 123-131, 2004

11.石川　徹夫、安岡　由美*、楢崎　幸範*、床次　眞司、石井　忠*、須田　博文*、山田　裕司：地下水中ラドン濃度測定装置の比較－液体シンチレーションカウンタ、ＩＭ泉効計、電離箱、ラドンモニタで得られた結果－、Radioisotopes、53(3)、133-140、2004

12. Kumiko Fukutsu, Yuji Yamada, Shinji Tokonami, Takao Iida*: Newly designed graded screen array for particle size measurements of unatatched radon decay products, Review of Scientific Instruments, 75(3), 783-787, 2004

[環境放射線防護体系構築のための研究]

1.Alice Sigurdson*, Michele Doody*, Sowmya Rao*, Michal Freedman*, Bruce Alexander*, Michael Hauptmann*, Aparna Mohan*, Shinji Yoshinaga, Deirdre Hill*, Robert Tarone*, Kiyohiko Mabuchi*, Elaine Ron*, Martha Linet*: Cancer Incidence in the U.S. Radiologic Technologists Health Study, 1983-1998, Cancer, 97, 3080-3089, 2003

2.Sahoo Sarata Kumar, Kunio Shiraishi, Akimasa Masuda*: Environmental Studies of Geochemical Behaviors of Artificially Produced Uranium Isotopes, Geochimica et Cosmochimica Acta, 67, A407, 2003

3.V.n. Korzun*, I P Los*, P V Zamostyan*, Kunio Shiraishi, et.al: Ecological and hygienic problems of alimentation of population in the northern regions of Ukraine, Gigiena Naselenykh Mest, 42, 442-448, 2003

4.Satoshi Murao*, Kouichirou Sera*, V.B Maglambayan*, E. Daisa*, Masae Yukawa, Shino Homma-Takeda, Hitoshi Imaseki: The Role of PIXE in Environmental Monitoring and Education of Small-Scale Miners of Gold, International Journal of PIXE, 12(3/4), 175-180, 2002

5.Yoshiko Kawabata, Masayoshi Yamamoto*, Kunio Shiraishi, Susumu Kou, Yasuo Katayama*: Uranium Pollution in the Republic of Uzubekistan, Journal Arid Land Studies, 13(4), 227-233, 2003

6.Yoshikazu Nishimura, Heesun Kim*, Nobuo Ikota, Hiromi Arima*, Hee Seung Bom*, Young-ho Kim*, Yoshito Watanabe, Masae Yukawa, Toshihiko Ozawa: Radioprotective effect of chitosan in sub-lethally X-ray irradiated mice., Journal of Radiation Research, 44(1), 53-58, 2003

7.Perveen Akhter*, M.K. Rahman*, Kunio Shiraishi, Hisao Kawamura*, N. Ahmad*: Uranium Concentration in Typical Pakistani Diet, Journal of Radiation Research, 44(3), 289-293, 2003

8.Masatoshi Yamada, Tatsuo Aono: Vertical profiles of 239+240Pu in seawater from the East China Sea, Journal of Radioanalytical and Nuclear Chemistry, 256(3), 399-402, 2003

9.Masae Yukawa, Hitoshi Imaseki: Micro-beam scanning PIXE analysis system at the National Institute of Radiological Sciences (NIRS), Journal of Radioanalytical and Nuclear Chemistry, 259(2), 281-285, 2004

10. Shino Homma-Takeda, Yoshikazu Nishimura, Yoshito Watanabe, Hitoshi Imaseki, Masae Yukawa: Elemental imaging of rat epididymis by micro-PIXE analysis, Nuclear Instruments & Methods in Physics Research Section B, 210, 368-372, 2003

11. Hitoshi Imaseki, Masae Yukawa, Takahiro Ishikawa, Hiroyuki Iso*, Tsuyoshi Hamano, Kenichi Matsumoto, Nakahiro Yasuda, et.al: The scanning microbeam PIXE analysis facility at NIRS, Nuclear Instruments & Methods in Physics Research Section B, 210, 42-47, 2003

12. Masaaki Ebara*, Hiroyuki Fukuda*, Masaharu Yoshikawa*, Nobuyuki Sugiura*, Masae Yukawa, et.al: Metal Contents in the Liver of Patients with Chronic Liver Disease Caused by Hepatitis C Virus, Oncology, 65(4), 323-330, 2003

13. Nobuhito Ishigure, Takashi Nakano, Masaki Matsumoto, Hiroko Enomoto: Database of Calculated Values of Retention and Excretion for Members of the Public Following Acute Intake of Radionuclides, Radiation Protection Dosimetry, 105(1/4), 311-316, 2003

14. Eric Ansoborlo*, Philippe Berard*, Keith Eckerman*, Vladimir Berkovski*, Alan Birchall*, Frances Fry*, Ray Guilmette*, Guthrie Miller*, Nobuhito Ishigure, Joyce Lipsztein*, Ditmer Nosske*: Review of methods and computer codes for interpretation of bioassay data, Radiation Protection Dosimetry, 105(1/4), 341-346, 2003

15. Yoshikazu Nishimura, Sahoo Sarata Kumar, Heesun Kim*, Shino Homma-Takeda, Yoshito Watanabe, Jiro Inaba*: Biokinetics of radiotellurium in rats, Radiation Protection Dosimetry, 105, 285-290, 2003

16. Shinzo Kimura, Masaaki Kurasaki*, Takeshi Saito*, Keizo Ito*, Toshiyuki Hosokawa*, Masashi Okabe*, Kunio Shiraishi, Tadashi Niioka*: Synthetic Dopamine melanins, a Model for Neuromelanin, Show Superoxide Dismutase-like Activity, Trace Elements and Electrolytes, 21(2), 55-59, 2004

[放射線等の環境リスク源による人・生態系への比較影響研究]

1.Matsui Kazuaki*, Nobuyoshi Ishii, Zenichiro Kawabata*: Release of Extracellular Transformable Plasmid DNA from Escherichia coli Cocultivated with Algae, Applied and Environmental Microbiology, 69, 2399-2404, 2003

2.Ryuichi Okayasu, Sentaro Takahashi, Hiroshi Sato, Yoshihisa Kubota, Staci Scolavino*, Joel S. Bedford*: Induction of DNA double strand breaks by arsenite: comparative studies with DNA breaks induced by X-rays., DNA Repair , 2, 309-314, 2003

3.Seigo Amachi, Mizuyo Kasahara, Satoshi Hanada*, Yoichi Kamagata*, Hirofumi Shinoyama*, Takaaki Fujii*, Yasuyuki Muramatsu: Microbial participation in iodine volatilization from soils., Environmental Science & Technology, 37, 3885-3890, 2003

4.Matsui Kazuaki*, Nobuyoshi Ishii, Zenichiro Kawabata*: Microbial interactions affecting the natural transformation of Bacillus subtilis in a model aquatic ecosystem., FEMS Microbiology Ecology, 45(3), 211-218, 2003

5.Udo Fehn*, G. Snyder*, Ryou Matsumoto*, Yasuyuki Muramatsu, Hitoshi Tomaru*: Iodine dating of pore waters associated with gas hydrates in the Nankai Area, Japan., Geology, 31, 521-524, 2003

6.Zofia Pietrzak-flis*, Pawel Krajewski*, Irena Radwan*, Yasuyuki Muramatsu: Retrospective evaluation of 131I deposition density and thyroid dose in Poland after the Chernobyl accident, Health Physics, 84, 698-708, 2003

7.Mahfuza Sharifa Sultana*, Yasuyuki Muramatsu, Satoshi Yoshida: Levels of lanthanides and natural radionuclides in the uncultivated soils near industrial area of Bangladesh, International Journal of Environmental Analytical Chemistry, 83, 375-387, 2003

8.Tadaaki Ban-nai, Yasuyuki Muramatsu: Transfer Factors of Radioiodine from Voilcanic-ash Soil (Andosol) to Crops, Journal of Radiation Research, 44, 23-30, 2003

9.Yasuyuki Muramatsu, Satoshi Yoshida, Atsushi Tanaka*: Determination of Pu concentration and its isotope ratio in Japanese soils by HR-ICP-MS, Journal of Radioanalytical and Nuclear Chemistry, 255, 477-480, 2003

10. Hiroshi Takeda, Shoichi Fuma, Kiriko Miyamoto, Noriko Kuroda, Jiro Inaba*: Transfer of carbon-14 to prenatal and neonatal rats from their mothers exposed to 14C-compounds by ingestion, Radiation Protection Dosimetry, 105, 291-296, 2003

11. Dan Galeriu*, Hiroshi Takeda, Anca Melintescu*: Towards a model for the dynamic transfer of tritium and carbon in mammals. , Radiation Protection Dosimetry, 105, 387-390, 2003

12. Shoichi Fuma, Nobuyoshi Ishii, Nobuyuki Tanaka, Hiroshi Takeda, Kiriko Miyamoto, Kei Yanagisawa, Masahiro Saitou*, Yusuke Ichimasa*: Comparative evaluation of effects of gamma-rays and heavy metals on mobility of the water flea Daphnia magna, Radioisotopes, 52, 319-326, 2003

[（2）生物系基盤研究]

[プルトニウム化合物の内部被ばくによる発がん効果に関する研究]

1.Yoichi Oghiso, Yutaka Yamada: The Specific Induction of Osteosarcomas in Different Mouse Strains after Injections of 239Pu Citrate , Journal of Radiation Research, 44, 125-132, 2003

2.Yoichi Oghiso, Yutaka Yamada: Comparisons of Pulmonary Carcinogenesis in Rats Following Inhalation Exposure to Pultonium Dioxide or X-ray Irradiation, Journal of Radiation Research, 44, 261-270, 2003

3.Yutaka Yamada, Yoichi Oghiso, Jean Paul Morlier*, Kristel Guillet*, Paul Fritsch*, Nicolas Dudoignon*, Georges Monchaux*: Comparative Study on Tp53 Gene Mutations in Lung Tumors from Rats Exposed to 239Pu, 237Np and 222Rn, Journal of Radiation Research, 45(1), 69-76, 2004

4.Yoichi Oghiso, Yutaka Yamada: Pre-B-Cell Lymphomas in Mice Following Injection of 239Pu Citrate: Comparison with MNU-Induced T-Lymphoblastic Lymphomas, Journal of Toxicologic Pathology, 16, 93-102, 2003

[放射線に対するレドックス制御に関する研究]

1.Kazunori Anzai, Tetsuya Aikawa*, Yoshiko Furukawa*, Yoshikazu Matsushima*, Shiro Urano*, Toshihiko Ozawa: ESR measurement of rapid penetration of DMPO and DEPMPO spin traps through lipid bilayer membranes, Archives of Biochemistry and Biophysics, 415, 251-256, 2003

2.Takashi Moritake, Koji Tsuboi*, Kazunori Anzai, Toshihiko Ozawa, Tadao Nose*: Reduction of nitroxides and radioprotective ability in glioblastoma cells, Brain Tumor Pathology, 20, 1-5, 2003

3.Akira Hanaki, Nobuo Ikota, Junichi Ueda, Akira Odani*, Toshihiko Ozawa: Transport of the Cu(II) Bound with Histidine-Containing tripeptides to Cysteine. Coordination Mode and Exchangeability of Cu(II) in the Complexes, Bulletin of the Chemical Society of Japan, 76(11), 2143-2150, 2003

4.Akira Hanaki, Toshihiko Ozawa, Yasuhiro Funahashi*, Akira Odani*: Comparative Studies on the Stability of a Chelate-ring Unit in Dynamic Aspects. Chelate-rings of the Cu(II) Complexes Composed of [N-(Glycyl)], [N-(beta-Alanyl)], and [N-(2-aminoethyl)] Moieties, Bulletin of the Chemical Society of Japan, 77(4), 699-707, 2004

5.Hidehiko Nakagawa, Mitsuko Takusagawa, Hiromi Arima*, Kumiko Furukawa*, Toshihiko Ozawa, Nobuo Ikota, et.al: Selective scavenging property of the indole moiety for the nitrating species of peroxynitrite, Chemical & Pharmaceutical Bulletin, 52(1), 146-149, 2004

6.Ikuo Nakanishi, Kei Ohkubo*, Kentaro Miyazaki*, Wataru Hakamata*, Shiro Urano*, Toshihiko Ozawa, Haruhiro Okuda*, Shunichi Fukuzumi*, Nobuo Ikota, Kiyoshi Fukuhara*: A Planar Catechin Analogue Having a More Negative Oxidation Potential than (+)-Catechin as an Electron-Transfer Antioxidant against a Peroxyl Radical, Chemical Research in Toxicology, 17(1), 26-31, 2004

7.Keita Saito, Keizo Takeshita, Kazunori Anzai, Toshihiko Ozawa: Pharmacokinetic Study of Acyl-protected Hydroxylamine Probe, 1-Acetoxy-3-carbamoyl-2,2,5,5-tetramethylpyrrolidine, for In Vivo Measurements of Reactive Oxygen Species, Free Radical Biology and Medicine, 36(4), 517-525, 2004

8.Chiho Nishizawa, Keizo Takeshita, Junichi Ueda, Toshihiko Ozawa: hydroxyl radical generation caused by the reaction of singlet oxygen with a spin trap, DMPO, increases significantly in the presence of biological reductants, Free Radical Research, 38(4), 385-392, 2004

9.Hiroshi Ishihara, Izumi Tanaka, Hong Wan*, Kumie Nojima, Kazuko Yoshida: Retrotransposition of limited deletion type intracisternal A-particle elements in the myeloid leukemia cells of C3H/He mice., Journal of Radiation Research, 45(1), 25-32, 2004

10. Masaichi-chang-il Lee*, Hirofumi Shoji*, Hiroyuki Miyazaki*, Kazunori Anzai, Toshihiko Ozawa, et.al: Measurement of oxidative stress in the rodent brain using computerized electron spin resonance tomography, Magnetic Resonance in Medical Sciences, 2(2), 79-84, 2003

11. Ikuo Nakanishi, Kentaro Miyazaki*, Tomokazu Shimada*, Yuko Iizuka*, Keiko Inami*, Masataka Mochizuki*, Shiro Urano*, Haruhiro Okuda*, Toshihiko Ozawa, Shunichi Fukuzumi*, Nobuo Ikota, Kiyoshi Fukuhara*: Kinetic Study of the Electron-Transfer Oxidation of the Phenolate Anion of a Vitamin E Model by Molecular Oxygen Generating Superoxide Anion in an Aprotic Medium, Organic & Biomolecular Chemistry, 1(22), 4085-4088, 2003

12. Ikuo Nakanishi, Yoshihiro Uto*, Kei Ohkubo*, Kentaro Miyazaki*, Haruko Yakumaru, Shiro Urano*, Haruhiro Okuda*, Junichi Ueda, Toshihiko Ozawa, Kiyoshi Fukuhara*, Shunichi Fukuzumi*, Hideko Nagasawa*, Hitoshi Hori*, Nobuo Ikota: Efficient Radical Scavenging Ability of Artepillin C, a Major Component of Brazilian Propolis, and the Mechanism, Organic & Biomolecular Chemistry, 1(9), 1452-1454, 2003

13. Junichi Ueda, Keizo Takeshita, Shigenobu Matsumoto*, Kinya Yazaki*, Mitsuru Kawaguchi*, Toshihiko Ozawa: Singlet oxygen-mediated hydroxyl radical production in the presence of phenols: Whether DMPO-OH formation really indicates production of .OH?, Photochemistry and Photobiology, 77, 165-170, 2003

14. Takashi Moritake, Koji Tsuboi*, Kazunori Anzai, Toshihiko Ozawa, Koichi Ando, Tadao Nose*: ESR Spin Trapping of Hydroxyl Radicals in Aqueous Solution Irradiated with High-LET Carbon-Ion Beams, Radiation Research, 159, 670-675, 2003

[放射線影響研究のための実験動物の開発に関する研究]

1.Hiromi Omoe, Katsuhiko Omoe*, Satoru Matsushita, Hideki Kobayashi*, Koushi Yamamoto*: Polymerase chain reaction with a primer pair in the 16S-23S rRNA spacer region for detection of Mycoplasma pulmonis in clinical isolates, Comparative Immunology, Microbiology & Infectious Diseases, 27(2), 117-128, 2004

2.Hiromi Omoe, Katsuhiko Omoe*, Masahiro Sakaguchi*, Yousuke Kameoka*, Satoru Matsushita, Toshiki Inada*: Analysis of protein expression by mammalian cell lines stably expressing lactate dehydrogenase-elevating virus ORF 5 and ORF 6 proteins., Comparative Immunology, Microbiology & Infectious Diseases, 27(2), 81-92, 2004

3.Hiromi Omoe, Katsuhiko Omoe*, Satoru Matsushita, Toshiki Inada*: Characterization of lactate dehydrogenase-elevating virus ORF6 protein expressed by recombinant baculoviruses, Comparative Immunology, Microbiology & Infectious Diseases, 27, 423-431, 2004

4.Seiji Kito, Yoshiko Noguchi*, Yuki Oota, Tatsuya Ohhata*, Masumi Abe, Naoko Shiomi, Tadahiro Shiomi, et.al: Evaluation of developmental competence of vitrified-warmed early cleavage-stage embryos and their application for chimeric mouse production, Experimental Animals, 52, 179-183, 2003

5.Akihiko Koga*, Atsuo Iida*, Megumi Kamiya*, Ryoko Hayashi*, Hiroshi Hori*, Yuuji Ishikawa, Akira Tachibana*: The medaka fish Tol2 transposable element can undergo excision in human and mouse cells., Journal of Human Genetics, 48(5), 231-235, 2003

6.Satoshi Tanaka*, Igunasya Tanaka*, Sumiko Sasagawa*, Kazuaki Ichinohe*, Takashi Takabatake*, Satoru Matsushita, Tsuneya Matsumoto*, Yuji Ohtsu*, Fumiaki Sato: No Lengthening of Life Span in Mice Continuously Exposed to Gamma Rays at Very Low Dose Rates, Radiation Research, 160, 376-379, 2003

[放射線応答遺伝子発現ネットワーク解析研究]

1.Hirokazu Takahashi, Nanae Umeda*, Yoko Tsutsumi*, Ryuutarou Fukumura, Hajime Ookaze*, Mitsugu Sujino, Gijsbertus Van Der Horst*, Akira Fujimori, Tatsuya Ohhata*, Ryoko Araki, Masumi Abe, et.al: Mouse dexamethasone-induced RAS protein 1 gene is expressed in a circadian rhythmic manner in the suprachiasmatic nucleus., Brain Research Molecular Brain Research, 110, 1-6, 2003

2.Toshiyuki Saito, Shinji Sato*: Structual Diversity of mRNAs Generated by Variable Splicing, Cell Technology, 22(9), 982-989, 2003

3.Yuko Fujimori, Ryoko Araki, Tatsuya Ohhata*, Ryuutarou Fukumura, Miki Nakamura, Hirokazu Takahashi, Yuko Noda, Seiji Kito, Masumi Abe, et.al: Growth retardation and skin abnormalities of the Recql4-deficient mouse, Human Molecular Genetics, 12(18), 2293-2299, 2003

4.Masahiro Muto, et.al: TCR delta gene rearrangements revealed by fine structure of the recombination junction in mice., Microbiology and Immunology, 47(11), 883-94, 2003

5.Ryuutarou Fukumura, Hirokazu Takahashi, Toshiyuki Saito, Yoko Tsutsumi*, Akira Fujimori, Shinji Sato*, Kouichi Tatsumi, Ryoko Araki, Masumi Abe: A sensitive transcriptome analysis method that can detect unknown transcripts, Nucleic Acids Research, 31(16), e94, 2003

[放射線障害に関する基盤的研究]

1.Shuichi Yamaguchi, Maki Hasegawa, Takako Suzuki*, Hidetoshi Ikeda*, Shirou Aizawa, Katsuiku Hirokawa*, Masanobu Kitagawa: In vivo distribution of receptor for ecotropic murine leukemia virus and binding of envelope protein of Friend Murine leukemia virus, Archives of Virology, 148, 1175-1184, 2003

2.Zhang Wei*, Isamu Hayata: Preferential reduction of dicentrics in reciprocal exchanges due to the combination of the size of broken chromosome segments by radiation, Journal of Human Genetics, 48, 531-534, 2003

3.Hiromi Itsukaichi, Masahiko Mori, Atsuko Nakamura, Koki Sato*: Identification of a New G-to-A Transition Mutation at Nucleotide Position 129 of the Xrcc4 Gene in Ionizing Radiation-hypersensitive Mutant LX830 Cells., Journal of Radiation Research, 44, 353-358, 2004

4.Tomohisa Hirobe, Kazumasa Wakamatsu*, Shosuke Ito*: Changes in the Proliferation and Differentiation of Neonatal Mouse Pink-Eyed Dilution Melanocytes in the Presence of Excess Tyrosine, Pigment Cell Research, 16(6), 619-628, 2003

5.Tomohisa Hirobe, Masatake Osawa*, Shin-ichi Nishikawa*: Steel Factor Controls the Proliferation and Differentiation of Neonatal Mouse Epidermal Melanocytes in Culture, Pigment Cell Research, 16(6), 644-655, 2003

6.Tomohisa Hirobe, Masatake Osawa*, Shin-ichi Nishikawa*: Hepatocyte Growth Factor Controls the Proliferation of Cultured Epidermal Melanoblasts and Melanocytes from Newborn Mice, Pigment Cell Research, 17(1), 51-61, 2004

7.Wang Bing, Harumi Ohyama, Yi Shang, Kaoru Tanaka, Shirou Aizawa, Osami Yukawa, Isamu Hayata: Adaptive Response in Embryogenesis: V. Existence of Two Efficient Dose-Rate Ranges for 0.3Gy of Priming Irradiation to Adapt Mouse Fetures., Radiation Research, 161, 264-272, 2004

8.Wang Bing, Harumi Ohyama, Yi Shang, Kazuko Fujita, Kaoru Tanaka, Tetsuo Nakajima, Shirou Aizawa, Osami Yukawa, Isamu Hayata: Adaptive Response in Embryogenesis: IV. Protective and Detrimental Bystander Effects Induced by X Rradiation in Cultured Limb Bud Cells of Fetal Mice., Radiation Research, 161, 9-16, 2004

[(3)重粒子線治療に関する基盤研究]
[重粒子線及び標準線量測定法の確立に関する研究開発]

1.Akifumi Fukumura, Tatsuaki Kanai, Nobuyuki Kanematsu, Ken Yusa, Akira Maruhashi*, Akihiro Nohtomi*, Teiji Nishio, Munefumi Shinbo, Takashi Akagi, Toshihiro Yanou*, Shigekazu Fukuda*: Proton beam dosimetry:Protocol and intercomparison in Japan, Standards and Codes of Practice in Medical Radiation Dosimetry (IAEA Proceedings Series), 2, 321-326, 2003

[照射方法の高精度化に関する研究開発]

1.Shinichi Minohara, Masahiro Endo, Tatsuaki Kanai, Hirotoshi Katou, Hirohiko Tsujii: Estimating Uncertainties of the Geometrical Range of particle Radiotherapy during Respiration, International Journal of Radiation Oncology Biology Physics, 56(1), 121-125, 2003

2.Youji Osanai*, Norio Tagawa*, Akihiro Minagawa*, Tadashi Moriya*, Shinichi Minohara: Automatic Tracking of Region of Interest in Sonograms Using Respiratory Information, Japanese Journal of Applied Physics, 42, 3281-3286, 2003

3.Ryosuke Kohno, Yoshihisa Takada*, Takeji Sakae*, Toshiyuki Terunuma*, Keiji Matsumoto*, Akihiro Nohtomi*, Hiroyuki Matsuda*: Verification of Water-Equivalent model for Calculation of Multiple Scattering Effects in Simplified Monte Carlo Dose Calculation, Japanese Journal of Applied Physics, 42 Part.1(6A), 3728-3729, 2003

4.Nobuyuki Kanematsu, Naruhiro Matsufuji, Ryosuke Kohno, Shinichi Minohara, Tatsuaki Kanai: A CT calibration method based on the polybinary tissue model for radiotherapy treatment planning, Physics in Medicine and Biology, 48(8), 1053-1064, 2003

5.Ryosuke Kohno, Yoshihisa Takada*, Takeji Sakae*, Toshiyuki Terunuma*, Keiji Matsumoto*, Akihiro Nohtomi*, Hiroyuki Matsuda*: Experimental evaluation of validity of simplified Monte Carlo method in proton dose calculations, Physics in Medicine and Biology, 48, 1277-1288, 2003

6.Naruhiro Matsufuji, Akifumi Fukumura, Masataka Komori, Tatsuaki Kanai, Toshiyuki Kohno*: Influence of fragment reaction of relativistic heavy charged particles on heavy-ion radiotherapy, Physics in Medicine and Biology, 48, 1605-1623, 2003

[粒子線がん治療装置の小型化に関する研究開発]

1.Takuji Furukawa*, Kouji Noda, Eriko Urakabe, Masayuki Muramatsu, Mitsutaka Kanazawa: Characteristics of fast beam switching for spot scanning, Nuclear Instruments & Methods in Physics Research Section A, 503, 485-495, 2003

2.Tetsumi Tanabe*, Kouji Noda, et.al: Resonant Neutral-Particle Emission in Collisions of Electrons with Peptide Ions in a Storage Ring, Physical Review Letters, 90(19), 193201-1-193201-4, 2003

[粒子線治療の生物効果に関する研究]

1.Honglu Wu*, Yoshiya Furusawa, Kerry George*, Tetsuya Kawata*, Francesca A Cucinotta*: M-Fish analysis of chromosome aberrations in human fibroblasts exposed to energetic iron ions in vitro, Advances in Space Research, 31(6), 1537-1542, 2003

2.Satoko Matsumura, Tatsushi Matsumura*, Shuuji Ozeki, Shoko Fukushima*, Hideya Yamazaki, Takehiro Inoue*, Toshihiko Inoue*, Yoshiya Furusawa, Kiyomi Eguchi-Kasai: Comparative analysis of G2 arrest after irradiation with 75 keV carbon-ion beams and 137Cs gamma-rays in a human lymphoblastoid cell line., Cancer Detection and Prevention, 27, 222-228, 2003

3.Yutaka Takahashi, Teruki Tashima, Naomasa Kawaguchi*, Yoshinosuke Hamada*, Seiji Mori*, Ayako Madachi*, Satoko Ikeda*, Hirokazu Mizuno*, Toshiyuki Ogata, Kumie Nojima, Yoshiya Furusawa, Nariaki Matsuura*: Heavy Ion Irradiation Inhibits in Vitro Angiogenesis Even at Sublethal Dose, Cancer Research, 63, 4253-4257, 2003

4.Manami Monobe, Sakae Arimoto-kobayashi*, Koichi Ando: Beta-Pseudouridine, a beer component, reduces radiation-induced chromosome aberrations in human lymphocytes, Genetic Toxicology and Environmental Mutagenesis : A Section of Mutation Research, 538, 93-99, 2003

5.Akihisa Takahashi*, I Ota*, Tetsurou Tamamoto*, Isao Asakawa*, Y Nagata*, H Nakagawa*, N Kondo*, Ken Ohnishi*, Yoshiya Furusawa, Hideki Matsumoto*, Takeo Oonishi*: p53-dependent hyperthermic enhancement of tumour growth inhibition by X-ray or carbon-ion beam irradiation, International Journal of Hyperthermia, 19(2), 145-153, 2003

6.Manami Monobe, Sachiko Koike, Akiko Uzawa, Koichi Ando: Effects of Beer Administration in Mice on Acute Toxicities Induced by X Rays and Carbon Ions, Journal of Radiation Research, 44, 75-80, 2003

7.Chunlin Shao, Yoshiya Furusawa, Mizuho Aoki: Sper/NO-induced reversible proliferation inhibition and cycle arrests associated with a micronucleus induction in HSG cells., Nitric Oxide : Biology and Chemistry, 8, 83-88, 2003

8.Tatsuya Shimazaki*, Makoto Ihara*, Yoshiya Furusawa, Yutaka Okumura*: Induction of DNA double strand breaks in scid cells by carbon ions, Radiation Protection Dosimetry, 99, 155-157, 2002

9.Honglu Wu*, Marco Durante*, Yoshiya Furusawa, Kerry George*, Tetsuya Kawata*, Francesca A Cucinotta*: Truly incomplete and complex exchanges in prematurely condensed chromosomes of human fibroblasts exposed in vitro to energetic heavy ions, Radiation Research, 160(4), 418-424, 2003

[（4）画像診断に関する基盤的研究]

[NMR に関する基盤的研究]

1.Junichi Takanashi, et.al: The changing MR imaging appearance of polymicrogyria: a consequence of myelination., American Journal of Neuroradiology, 24(5), 788-793, 2003

2.Junichi Takanashi, et.al: T1 hyperintensity in the pulvinar: key imaging feature for diagnosis of Fabry disease., American Journal of Neuroradiology, 24(5), 916-921, 2003

3.Junichi Takanashi, et.al: Brain MR imaging in neonatal hyperammonemic encephalopathy resulting from proximal urea cycle disorders., American Journal of Neuroradiology, 24(6), 1184-1187, 2003

4.Takahiro Sunaga*, Hiroo Ikehira, Shigeo Furukawa, Mitsuru Tamura, Eiji Yoshitome, Takayuki Obata, Hiroshi Shinkai, Shuji Tanada, Hajime Murata, Yasuhito Sasaki: Development of a Dielectric Equivalent Gel for Better Impedance Matching for Human Skin., Bioelectromagnetics, 24(3), 214-217, 2003

5.Kazuyuki Saito, Kouichi Ito, et.al: Numerical simulation for interstitial heating of actual neck tumor based on MRI tomograms by using a coaxial-slot antenna, IEICE Transactions on Electronics, E86-C(12), 2482-2487, 2003

6.Hiroshi Hirata*, Mitsuhiro Ono, et.al: Detection of electron paramagnetic resonance absorption using frequency modulation, Journal of Magnetic Resonance, 164(2), 233-241, 2003

7.伊藤　公一、齋藤　一幸：計算機シミュレーションによる同軸スロットアンテナの電気的特性の改善に関する検討、Journal of Microwave Surgery、21、49-52、2003

8.Takayuki Obata, Thomas T. Liu*, Miller Karla*, Wen-Ming Luh*, Eric C. Wong*, Lawrence R. Frank*, Richard B. Buxton*: Discrepancies Between BOLD and Flow Dynamics in Primary and Supplementary Motor Areas: Application of the Balloon Model to the Interpretation of BOLD Transients, NeuroImage, 21(1), 144-153, 2004

9.Junichi Takanashi, Hiroko Tada, et.al: Contralateral rhinorrhea as a feature of infantile Horner's syndrome, Neurology, 61, 1309-1310, 2003

10. Junichi Takanashi, Hiroko Suzuki, et.al: Widening spectrum of congenital hemiplegia:Periventricular venous infarction in term neonates, Neurology, 61, 531-533, 2003

11. Junichi Takanashi, Hiroko Suzuki, et.al: Medullary streaks: Dilated medullary vessels in chronic ischemia in children, Neurology, 61, 583-584, 2003

12. Hiroko Suzuki, Junichi Takanashi, et.al: Temporal Parenteral Nutrition in Children Causing T1 Shortening in the Anterior Pituitary Gland and Globus Pallidus, Neuropediatrics, 34, 200-204, 2003

13. Takayuki Obata, Someya Yasuhiro*, Tetsuya Suhara, Hiroo Ikehira, Shuji Tanada, Yoshiro Okubo*, et.al: Neural damage due to temporal lobe epilepsy: Dual-nuclei (proton and phosphorus) magnetic resonance spectroscopy study, Psychiatry and Clinical Neurosciences, 58(1), 48-53, 2004

14.齋藤　一幸、伊藤　公一、その他：マイクロ波組織内加温用アレーアプリケータにおける大容積腫瘍の均一加温に関する給電方法の検討、電子情報通信学会論文誌 B，通信、J87-B(3)、410-420、2004

[PET 及び SPECT に関する基盤的研究]

1.Osamu Inoue*, Rie Hosoi*, Soutarou Momosaki*, Kaoru Kobayashi*, Takayo Kida*, Kazutoshi Suzuki, Antony Gee*: Ionic interaction of [11C]-N,a-dimethylbenzylamine (DMBA) in rodent brain, Annals of Nuclear Medicine, 17(6), 467-473, 2003

2.Tsuyoshi Fuchigami, Terushi Haradahira, Takuya Arai, Takashi Okauchi, Jun Maeda, Kazutoshi Suzuki, Fumihiko Yamamoto*, Tetsuya Suhara, Shigeki Sasaki, Minoru Maeda*: Synthesis and Brain Regional Distribution of [11C]NPS 1506 in Mice and Rat: an N-Methyl-D-aspartate (NMDA) Receptor Antagonist, Biological and Pharmaceutical Bulletin , 26(11), 1570-1573, 2003

3.Ming-Rong Zhang, Kenji Furutsuka, Jun Maeda, Tatsuya Kikuchi, Takayo Kida*, Takashi Okauchi, Toshiaki Irie, Kazutoshi Suzuki: N-[18F]fluoroethyl-4-piperidyl Acetate ([18F]FEtP4A): A PET Tracer for Imaging Brain Acetylcholinesterase in Vivo, Bioorganic & Medicinal Chemistry, 11, 2519-2527, 2003

4.Ming-Rong Zhang*, Jun Maeda*, Kenji Furutsuka*, Yuichirou Yoshida*, Masanao Ogawa*, Tetsuya Suhara, Kazutoshi Suzuki: [18F]FMDAA1106 and [18F]FEDAA1106: Two Positron-Emitter Labeled Ligands for Peripheral Benzodiazepine Receptor(PBR)., Bioorganic & Medicinal Chemistry Letters, 13, 201-204, 2003

5.Ming-Rong Zhang, Kenji Furutsuka, Yuichirou Yoshida*, Kazutoshi Suzuki: How to increase the reactivity of [18F]fluoroethyl bromide: [18F]fluoroethylation of amine, phenol and amide functional groups with [18F]FEtBr, [18F]FEtBr/NaI and [18F]FEtOTf, Journal of Labelled Compounds & Radiopharmaceuticals, 46, 587-598, 2003

6.Toshimitsu Fukumura, Shihoko Akaike*, Yuichirou Yoshida*, Kazutoshi Suzuki: Decomposition of an aqueous solution of [11C]Ro 15-4513: implication of hydrated electrons in the radiolysis of[11C]Ro 15-4513, Nuclear Medicine and Biology, 30, 389-395, 2003

7.Ming-Rong Zhang, Takayo Kida*, Junko Noguchi*, Kenji Furutsuka, Jun Maeda, Tetsuya Suhara, Kazutoshi Suzuki: [11C]DAA1106: Radiosynthesis and in vivo binding to peripheral benzodiazepine receptors in mouse brain, Nuclear Medicine and Biology, 30, 513-519, 2003

8.Takayo Kida*, Junko Noguchi*, Ming-Rong Zhang, Tetsuya Suhara, Kazutoshi Suzuki: Metabolite analysis of [11C]Ro15-4513 in mice, rats, monkeys and humans, Nuclear Medicine and Biology, 30, 779-784, 2003

9.Toshimitsu Fukumura, Kazuhiro Okada*, Szelecsenyi Ferenc, Zoltan Kovacs, Kazutoshi Suzuki: Practical production of 61Cu using natural Co target and its simple purification with a chelating resin for 61Cu-ATSM, Radiochimica Acta, 92, 209-214, 2004

10. Terushi Haradahira, Takashi Okauchi, Jun Maeda, Ming-Rong Zhang, Touru Nishikawa*, Kazutoshi Suzuki, Tetsuya Suhara: Effects of Endogenous Agonists, Glycine and D-Serine, on In Vivo Specific Binding of [11C]L-703,717, a PET Radioligand for the Glycine-Binding Site of NMDA Receptors, Synapse, 50, 130-136, 2003

11. Hitoshi Shinotoh, Kiyoshi Fukushi, Shin-ichiro Nagatsuka, Noriko Tanaka, Akiyo Aotsuka, Tsuneyoshi Ota, Hiroki Namba, Shuji Tanada, Toshiaki Irie: The Amygdala and Alzheimer's Disease Positron Emission Tomographic Study of the Cholinergic System, The Amygdala in Brain Function : Basic and Clinical Approaches(Annals of the New York Academy of Sciences ; v.985), 411-419, 2003

[放射光を用いた単色X線 CT 装置の研究開発]

1.Takanori Tsunoo, Masami Torikoshi, Makoto Sasaki, Masahiro Endo, Naoto Yagi*, Kentaro Uesugi*: Distribution of Electron Density Using Dual-Energy X-Ray CT, IEEE Transactions on Nuclear Science, 50(5), 1678-1682, 2003

[（5）医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]
[医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]

1.岩井　一男*、馬瀬　直通*、本田　和也*、加藤　正浩*、篠田　浩司、西澤　かな枝、丸山　隆司：歯科Ｘ線撮影における集団実効線量の推定：１９９４年、歯科放射線、43(2)、65-69、2003

2.西澤　かな枝、松本　雅紀、岩井　一男*、丸山　隆司：CT 検査件数及び CT 検査による集団実効線量の推定、日本医学放射線学会雑誌、64(3)、151-158、2004

3.Kanae Nishizawa, Takashi Moritake*, Yuji Matsumaru*, Koji Tsuboi*, Kazuo Iwai*: Dose measurement for patients and physicians using a glass dosemeter during endovascular treatment for brain disease, Radiation Protection Dosimetry, 107(4), 247-252, 2003

[(6)脳機能研究]

[脳機能研究]

1.Tetsuya Suhara, Akihiro Takano, Yasuhiko Sudo*, Tetsuya Ichimiya, Makoto Inoue, Fumihiko Yasuno, Youko Ikoma, Yoshiro Okubo: High levels of serotonin transporter occupancy with low-dose clomipramine in comparative occupancy study with fluvoxamine using positron emission tomography., Archives of General Psychiatry, 60, 386-391, 2003

2.Kenji Oda*, Yoshiro Okubo, Ryuji Ishida*, Yuji Murata*, Katsuya Ohta*, Tetsuya Matsuda*, Eisuke Matsushima*, Tetsuya Ichimiya, Tetsuya Suhara, Hitoshi Shibuya*, Touru Nishikawa*: Regional cerebral blood flow in depressed patients with white matter magnetic resonance hyperintensity, Biological Psychiatry, 53, 150-156, 2003

3.Fumihiko Yasuno, Tetsuya Suhara, Tetsuya Ichimiya, Akihiro Takano, Tomomichi Ando, Yoshiro Okubo: Decreased 5-HT1A receptor binding in amygdala of schizophrenia, Biological Psychiatry, 55, 439-444, 2004

4.Sun Xue Zhi, Yoshinobu Harada, Rui Zhang*, Chun Cui*, Sentaro Takahashi, Yoshihiro Fukui*: A genetic mouse model carrying the nonfunctional xeroderma pigmentosum group G gene., Congenital Anomalies, 43, 133-139, 2003

5.Shigeru Obayashi, Tetsuya Suhara, Yuji Nagai, Takashi Okauchi, Jun Maeda, Atsushi Iriki*: Monkey brain areas underlying remote-controlled operation., European Journal of Neuroscience, 19, 1397-1407, 2004

6.M Ichise*, Js Loiw*, Jq Lu*, Akihiro Takano, K Modell*, Hiroshi Toyama*, Tetsuya Suhara, Kazutoshi Suzuki, Rb Innis*, Re Carson*: Linearized reference tissue parametric imaging methods: application to [11C]DASB positron emission tomography studies of the serotonin transporter in human brain, Journal of Cerebral Blood Flow and Metabolism, 23, 1096-1112, 2003

7.Kazunori Anzai, Keita Saito, Keizo Takeshita, Sentaro Takahashi, Hiroyuki Miyazaki*, Hirofumi Shoji*, Masaichi-chang-il Lee*, Tosiki Masumizu*, Toshihiko Ozawa: Assessment of ESR-CT imaging by comparison with autoradiography for the distribution of a blood-brain-barrier permeble spin probe, MC-PROXYL, to rodent brain, Magnetic Resonance Imaging, 21, 765-772, 2003

8.Akihiro Takano, Tetsuya Suhara, Jun Maeda, Kiyoshi Andou, Takashi Okauchi, Shigeru Obayashi, Takashi Nakayama, S Kapur*: Relation between cortical dopamine D2 receptor occupancy and suppression of conditioned avoidance response in non-human primate., Psychiatry and Clinical Neurosciences, 58, 330-332, 2004

9.Junichi Senba, Maki Wakuta*, Jun Maeda, Tetsuya Suhara: Nicotine withdrawal induces subsensitivity of hypothalamic-pituitary-adrenal axis to stress in rats: implications for precipitation of depression during smoking cessation., Psychoneuroendocrinology, 29, 215-226, 2004

10. Jun Maeda, Tetsuya Suhara, Koichi Kawabe*, Takashi Okauchi, Shigeru Obayashi, Junko Hojo*, Kazutoshi Suzuki: Visualization of alpha5 subunit of GABAA/benzodiazepine receptor by [11C]Ro15-4513 using positron emission tomography., Synapse, 47, 200-208, 2003

11. Kunihiko Shioe*, Tetsuya Ichimiya, Tetsuya Suhara, Akihiro Takano, Yasuhiko Sudo*, Fumihiko Yasuno, Masami Hirano*, Manabu Shinohara*, Masato Kagami*, Yoshiro Okubo, Masahiro Nankai*, Shigenobu Kamba*: No association between genotype of the promotor region of serotonin transporter gene and serotonin transporter binding in human brain measured by PET., Synapse, 48, 184-188, 2003

12. Jun Maeda, Tetsuya Suhara, Ming-Rong Zhang, Takashi Okauchi, Fumihiko Yasuno, Youko Ikoma, Motoki Inaji, Yuji Nagai, Akihiro Takano, Shigeru Obayashi, Kazutoshi Suzuki: Novel Peripheral Benzodiazepine receptor ligand [11C]DAA1106 for PET: an Imaging tool for glial cells in the brain, Synapse, 52, 283-291, 2004

13. Fumihiko Yasuno, Tetsuya Suhara, Takashi Nakayama, Tetsuya Ichimiya, Akihiro Takano, Tomomichi Ando, Makoto Inoue, Jun Maeda, Kazutoshi Suzuki: Inhibitory effect of hippocampal 5-HT1A receptors on human explicit memory., The American Journal of Psychiatry, 160, 334-340, 2003

14. Akihiro Takano, Tetsuya Suhara, Youko Ikoma, Fumihiko Yasuno, Jun Maeda, Tetsuya Ichimiya, Yasuhiko Sudo*, Makoto Inoue, Yoshiro Okubo*: Estimation of the time-course of dopamine D2 receptor occupancy in living human brain from plasma pharmacokinetics of antipsychotics, The International Journal of Neuropsychopharmacology, 7, 19-26, 2004

15. Sun Xue Zhi, Rui Zhang*, Chun Cui*, Sentaro Takahashi, Yoshihisa Kubota, Kazuhiko Sawada*, Yoshihiro Fukui*: Expression of neural cell adhesion molecule L1 in the brain of rats exposed to X-irradiation in utero., The Journal of Medical Investigation : JMI, 50, 187-191, 2003

16. Masato Kinoshita*, Masatake Yamauchi, Motoe Sasanuma*, Yuuji Ishikawa, Takashi Osada*, Kouji Inoue*, Yuuko Wakamatsu*, Kenjirou Ozato*, et.al: A Transgene and Its Expression Profile are Stably Transmitted to Offspring in Transgenic Medaka Generated by the Particle Gun Method, Zoological Science, 20, 869-875, 2003

[(7)原子力基盤技術総合的研究]

[マルチトレーサーの製造技術の高度化と先端科学技術研究への応用をめざした基盤研究]

1.Szelecsenyi Ferenc, Zoltan Kovacs*, Kazutoshi Suzuki, Kazuhiro Okada*: Investigation of the natZn(p,x)62Zn nuclear process up to 70 MeV: a new 62Zn/62Cu generator, Applied Radiation and Isotopes, 58, 377-384, 2003

2.石川　正純*、平澤　雅彦、富谷　武浩、村山　秀雄、星　正治*：非侵襲的ホウ素濃度分布測定システムの基礎的検討、医学物理、25(1)、3-12、2005

3.Masahiko Hirasawa, Takehiro Tomitani: Effect of compensation for scattering angular uncertainty in analytical Compton camera reconstruction, Physics in Medicine and Biology, 49, 2083-2093, 2004

[放射性核種の土壌生体圏における移行及び動的解析モデルに関する研究]

1.Keiko Tagami, Shigeo Uchida: A Simple ICP-MS Method for the Determination of Rhenium in Seawater and Its Concentration in Tokyo Bay, Atomic Scpectroscopy, 24(6), 201-205, 2003

2.Hikaru Amano*, Tomoyuki Takahashi*, Shigeo Uchida, Shungo Matsuoka*, Hiroshi Ikeda*, Hiroko Hayashi*, Naohiro Kurosawa*: Development of a Code MOGRA for Predicting the Migration of Ground Additions and Its Application to Various Land Utilization Areas, Journal of Nuclear Science and Technology, 40(11), 975-979, 2003

3.Keiko Tagami: Technetium-99 Behavior in the Terrestrial Environment -Field Observations and Radiotracer Experiments-, Journal of Nuclear and Radiochemical Sciences, 4, A1-A8, 2003

4.石井　伸昌、田上　恵子：湛水土壌表面水中の微生物によるテクネチウムの不溶化、Radioisotopes、52、475-482、2003

[放射線損傷の認識と修復機構の解析とナノレベルでのビジュアル化システムの開発]

1.Kunihiko Fukuchi*, Kenntarou Nakamura*, Sachiko Ichimura, Kouichi Tatsumi, Kunihide Gomi*: The association of cyclin A and cyclin kinase inhibitor p21 in response to gamma-irradiation requires the CDK2 binding region, but not the Cy motif., Biochimica et Biophysica Acta. Molecular Cell Research, 1642, 163-171, 2003

2.Kazuhiro Daino, Sachiko Ichimura, Mitsuru Nenoi: Comprehensive search for X-ray-responsive elements and the binding factors in the regulatory region of the GADD45a gene, Journal of Radiation Research, 44, 311-318, 2004

3.Zhang Wei, Wang Chun Yan, Chen Deqing*, Masako Minamihisamatsu, Hiroshige Morishima*, Yuan Yongling*, Wei Luxin*, Tsutomu Sugahara*, Isamu Hayata: Imperceptible Effect of Radiation Based on Stable Type Chromosome Aberrations Accumulated in the Lymphocytes of Residents in the High Background Radiation Area in China, Journal of Radiation Research, 44, 69-74, 2003

4.Akiko Ueno, Kouichi Tatsumi, Charles Waldren*, et.al: The "pro-drug" RibCys decreases the mutagenicity of high-LET radiation in cultured mammalian cells., Radiation Research, 160(5), 579-583, 2003

[競争的研究]
[科研費]
[ヒト腎細胞癌の発生過程における第5染色体長腕増幅の役割]

1.Hiroshi Moritake*, Mitsuaki Yoshida: Newly established Askin tumor cell line and overexpression of focal adhesion kinase in Ewing sarcoma family of tumors cell lines, Cancer Genetics and Cytogenetics, 146(2), 102-109, 2003

2.Naoki Watanabe*, Mitsuaki Yoshida: Cryptic insertion and translocation or nondividing leukemic cells disclosed by FISH analysis in infant acute leukemia with discrepant molecular and cytogenetic findings, Leukemia, 17, 876-882, 2003

[共同研究]
[共同研究]
[細胞に対する重粒子線マイクロビームのダイレクトヒットとバイスタンダー効果]

1.Chunlin Shao, Yoshiya Furusawa, Mizuho Aoki, Koichi Ando: Role of gap junctional intercellular communication in radiation-induced bystander effects in human fibroblasts, Radiation Research, 160(3), 318-323, 2003

2.Chunlin Shao*, Mizuho Aoki, Yoshiya Furusawa: Bystander effect on cell growth stimulation in neoplastic HSGc cells induced by heavy-ion irradiation, Radiation and Environmental Biophysics, 42(3), 183-187, 2003

3.Chunlin Shao, Yoshiya Furusawa, Yasuhiko Kobayashi*, Tomoo Funayama*, Seiichi Wada*: Bystander effect induced by counted high-LET particles in confluent human fibroblasts: a mechanistic study, The FASEB Journal, 17, 1422-1427, 2003

[個人業績]
[課題外]
[課題外]

1.Kinziro Kubota*, Toshimitsu Momose*, Abe Atsushi*, Noriyuki Narita*, Kuni Otomo*, Syunsuke Minaguchi*, Masaya Funakoshi*, Yasuhito Sasaki, Yoshiki Kojima*: Nuclear medical PET-study in the causal relationship between mastication and brain function in human evolutionary and developmental processes, Annals of Anatomy, 185(6), 565-569, 2003

2.Haruo Yoshida*, Toshimitsu Kobayashi*, Minoru Morikawa*, Kuniaki Hayashi*, Hirohiko Tsujii, Yasuhito Sasaki: CT imaging of the patulous eustachian tube - comparison between sitting and recumbent positions, Auris Nasus Larynx, (30), 135-140, 2003

3.Yong-Liang Yang*, Masashi Kusakabe, John R. Southon*: 10Be profiles in the East China Sea and the Okinawa Trough, Deep-Sea Research Part II, 50, 339-351, 2003

4.Yuzuru Niibe*, Takashi Nakano*, Tatsuya Ohno, Yoshiyuki Suzuki*, Kuniyuki Oka*, Hirohiko Tsujii: Prognostic significance of c-erbB-2/HER2 expression in advanced uterine cevical carcinoma with para-aortic lymph node metastasis treated with radiation therapy, International Journal of Gynecological Cancer, 13, 849-855, 2003

5.Akio Takamura*, Tadashi Kamada, et.al: INTRALUMINAL LOW-DOSE-RATE 192Ir BRACHYTHERAPY COMBINED WITH EXTERNAL BEAM RADIOTHERAPY AND BILIARY STENTING FOR UNRESECTABLE EXTRAHEPATIC BILE DUCT CARCINOMA, International Journal of Radiation Oncology Biology Physics, 57(5), 1357-1365, 2003

6.野口　海*、大野　達也、森田　智視*、相原　興彦*、辻井　博彦、下妻　晃二郎*、松島　英介*: がん患者に対する Functional Assessment of Chronic Illness Therapy-Spiritual(FACIT-Sp)日本語版の信頼性・妥当性の検討、総合病院精神医学、16(1)、42-47、2004

7.Tomoko Kazumoto*, Shingo Kato, Mizuyoshi Sakura*, Yoshiya Watanabe*, Hideyuki Mizuno*, Katsuji Takouda*, Wataru Nishijima*, Akiko Ishihara*, Toshiyuki Izumo*: A Case of Locally Advanced Hypopharyngeal Cancer Treated With Curative Resection after Thermoradiotherapy, Japanese Journal of Hyperthermic Oncology, 18(2), 99-107, 2002

8.植　英規*、佐藤　善隆*、羽石　秀昭*、外山　比南子、宮本　忠昭、山本　直敬、森　豊*: 胸部X線ＣＴ画像からの肺葉分割、Medical Imaging Technology、21(2)、122-130、2003

9.Masahiro Mishina*, Michio Senda*, Motohiro Kiyosawa*, Kiichi Ishiwata*, Anne De Volder*, Hideki Nakano*, Hinako Toyama, Keiichi Oda*, Yuichi Kimura*, Kenji Ishii*, Touru Sasaki*, Masashi Ohyama*, Yuichi Komaba*, Shirou Kobayashi*, Shin Kitamura*, Yasuo Katayama*: Increased regional cerebral blood flow but normal distribution of GABAa receptor in the visual cortex of subjects with early-onset blindness, NeuroImage, 19, 125-131, 2002

10. Zora Zunic*, Predrag Ujic*, Igor Celikovic*, Kenzo Fujimoto: ECE Laboratory in the Vinca institute - its basic characteristics and fundamentals of electrochemical etching on polycarbonate, Nuclear Technology & Radiation Protection, XVIII(2), 57-60, 2003

[人畜共通病原菌毒素の分子生物学的解析]

1.Katsuhiko Omoe*, Hu Dong-liang*, Hiromi Omoe, Akio Nakane*, Kunihiro Shinagawa*: Identification and characterization of a new staphylococcal enterotoxin-related putative toxin encoded by two kinds of plasmids., Infection and Immunity, 71(10), 6088-6094, 2003

[病理学的放射線照射効果判定法の確立・剖検時画像診断による、新しい剖検法の構築]

1.清水　一範、野口　徇子、江澤　英史: 画像同期切り出しシステムの開発と検討、MRI,CT 画像に同期した臓器スライスを行うために一、医学検査 ： 日本臨床衛生検査技師会誌、53(1)、28-33、2004

2.Hidefumi Ezawa, Ryuichi Yoneyama, Susumu Kandatsu, Kyosan Yoshikawa, Hirohiko Tsujii, Kenichi Harigaya*: Introduction of Autopsy Imaging Redefines the Concept of Autopsy: 37 Cases of Clinical Experience, Pathology International, 53(12), 865-873, 2003

[受託研究及び行政のために必要な業務]
[科学技術特別研究員試験研究費]
[RI 標識遺伝子の画像化と定量法の開発に関する基礎研究]

1.Hong Zhang, Tian Mei*, Shuji Tanada, Keigo Endou*, et.al: Rhenium-188-HEDP Therapy for the Palliation of Pain Due to Osseous Metastases in Lung Cancer Patients, Cancer Biotherapy & Radiopharmaceuticals, 18(5), 719-725, 2003

2.Tian Mei*, Hong Zhang, Keigo Endou*, et.al: Expression of Glut-1 and Glut-3 in untreated oral squamous cell carcinoma compared with FDG accumulation in a PET study, European Journal of Nuclear Medicine and Molecular Imaging, 31(1), 5-12, 2003

3.Hong Zhang, Tian Mei*, Noboru Oriuchi*, Tetsuya Higuchi*, Shuji Tanada, Keigo Endou*: Detection of lung cancer with positron coincidence gamma camera using fluorodeoxyglucose in comparison with dedicated PET, European Journal of Radiology, 47, 199-205, 2003

4.N Khan*, Noboru Oriuchi*, Hong Zhang, Tetsuya Higuchi*, Tian Mei*, Tomio Inoue*, Noriko Satou*, Keigo Endou*: A comparative study of 11C-choline PET and [18F]fluorodeoxyglucose PET in the evaluation of lung cancer, Nuclear Medicine Communications, 24, 359-366, 2003

5.Tian Mei*, Keiko Koyama*, Hong Zhang, Noboru Oriuchi*, Tetsuya Higuchi*, Keigo Endou*: Assessment of myocardial viability with a positron coincidence gamma camera using fluorodeoxyglucose in comparison with dedicated PET, Nuclear Medicine Communications, 24, 367-374, 2003

[受託研究費]
[ナショナルバイオリソースプロジェクト]

1.Kouichi Maruyama, Shigeki Yasumasu*, Ichiro Iuchi*: Evolution of Globin Genes of the Medaka Oryzias latipes (Euteleostei; Beloniformes; Oryziinae), Mechanisms of Development, 121(7-8), 753-769, 2004

[新規高精度遺伝子発現プロフィール（HiCEP）法の開発]

1.Ryoko Araki, Hirokazu Takahashi, Ryuutarou Fukumura, Fuyan Sun, Nanae Umeda*, Mitsugu Sujino*, Shin Ichi Inouye*, Toshiyuki Saito, Masumi Abe: Restricted expression and photic induction of a novel mouse regulatory factor X4 transcript in the suprachiasmatic nucleus., The Journal of Biological Chemistry, 279(11), 10237-10242, 2003

[放射性核種生物圏移行パラメータ調査]

1.Jose Luis Mas*, Keiko Tagami, Shigeo Uchida: Method for the detection of Tc in seaweed samples coupling tne use of Re as a chemical tracer and isotope dilution inductively coupled plasma mass spectrometry, Analytica Chimica Acta, 509, 83-88, 2004

[重粒子共同利用研究]
[治療・診断]
[がんの機能診断法に関する PET の応用研究]

1.Hong Zhang, Kyosan Yoshikawa, Katsumi Tamura, Takashi Tomemori, Kenji Sago, Tian Mei*, Susumu Kandatsu, Tadashi Kamada, Hiroshi Tsuji, Tetsuya Suhara, Kazutoshi Suzuki, Shuji Tanada, Hirohiko Tsujii: 11C-Methionine Positron Emission Tomography and Survival in Patients with Bone and Soft Tissue Sarcomas Treated by Carbon Ion Radiotherapy, Clinical Cancer Research, 10, 1764-1772, 2004

[生物]
[ブラッグピーク近傍の重粒子イオンを用いたイオン特異的なDNA損傷の誘発と修復 (B413)]

1.竹安　明浩*、小西　輝昭*、石澤　紗智*、山浦　晋*、松本　健一*、小口　靖弘*、安田　仲宏、佐藤　幸夫、古澤　佳也、檜枝　光太郎*: CR-39 を利用した細胞核内イオン通過部位と DNA 主鎖切断部位の比較、放射線、29(3)、151-158、2003

[重粒子共同利用生物班研究]

1.Riki Okeda*, Shinobu Okada*, Akihiro Kawano, Satoru Matsushita, Toshihiko Kuroiwa*: Neuropathology of Delayed Encephalopathy in Cats Induced by Heavy-ion Irradiation, Journal of Radiation Research, 44(4), 345-352, 2003

[物理・工学]

[重イオン生成中性子の物質内挙動と透過に関する研究]

1.Tomoya Nunomiya*, Shunsuke Yonai, Masashi Takada, Akifumi Fukumura, Takashi Nakamura: SHIELDING EXPERIMENT OF HEAVY-ION PRODUCED NEUTRONS USING A TISSUE-EQUIVALENT PROPORTIONAL COUNTER, Radiation Protection Dosimetry, 106(3), 207-218, 2003

2.Hiroshi Yashima*, Yoshitomo Uwamino*, Hiroshi Iwase*, Hiroshi Sugita*, Takashi Nakamura*, Sachiko Ito*, Akifumi Fukumura: Measurement and calculation of radioactivities of spallation products by high-energy heavy ions, Radiochimica Acta, 91, 689-696, 2003

[二次ビームコース及びこの医学利用に関する基礎研究]

1.Yasushi Iseki, Hideyuki Mizuno, Yasuyuki Futami, Takehiro Tomitani, Tatsuaki Kanai, Mitsutaka Kanazawa, Atsushi Kitagawa, Takeshi Murakami, Teiji Nishio, Mitsuru Suda, Eriko Urakabe, Akira Yunoki*, Hirotaka Sakai*: Positron camera for range verification of heavy-ion radiotherapy, Nuclear Instruments & Methods in Physics Research Section A, 515, 840-849, 2004

2.Takehiro Tomitani, Jorg Pawelke*, Mitsutaka Kanazawa, Kyosan Yoshikawa, Katsuya Yoshida, Masanobu Sato, Atsushi Takami*, Masahisa Koga, Yasuyuki Futami, Atsushi Kitagawa, Eriko Urakabe, Mitsuru Suda, Hideyuki Mizuno, Tatsuaki Kanai, Hajime Matsuura*, Ikuhiro Shinoda*, Susumu Takizawa*: Washout studies of 11C in rabbit thigh muscle implanted by secondary beams of HIMAC, Physics in Medicine and Biology, 48(7), 875-889, 2003

3.Hideyuki Mizuno*, Takehiro Tomitani, Mitsutaka Kanazawa, Atsushi Kitagawa, Jorg Pawelke*, Yasushi Iseki*, Eriko Urakabe, Mitsuru Suda, Akihiro Kawano, Riichirou Iritani, Satoru Matsushita, Taku Inaniwa, Teiji Nishio*, Shigeo Furukawa, Koichi Ando, Yuzuru Nakamura*, Tatsuaki Kanai: Washout measurement of radioisotope implanted by radioactive beams in the rabbit, Physics in Medicine and Biology, 48, 2269-2281, 2003

【平成16年度】

[プロジェクト研究]
[（1）放射線先進医療研究]
[高度画像診断技術の研究開発　イ）4次元CT装置の開発]

1.Shinichiro Mori, Masahiro Endo, Takanori Tsunoo, Susumu Kandatsu, Shuji Tanada, Hiroshi Aradate*, Yasuo Saito*, Hiroaki Miyazaki*, Kazumasa Sato*, Satoshi Matsushita, Masahiro Kusakabe*: Physical performance evaluation of a 256-slice CT-scanner for four-dimensional imaging, Medical Physics, 31(6), 1348-1356, 2004

[高度画像診断技術の研究開発　ロ）次世代ＰＥＴ装置の開発]

1.Naoko Inadama, Hideo Murayama, Mitsuo Watanabe*, Tomohide Omura*, Takaji Yamashita*, Hideyuki Kawai, Takaya Umehara, Takehiro Kasahara, Narimichi Orita, Tomoaki Tsuda: Performance of a PET detector with a 256ch flat panel PS-PMT, IEEE Transactions on Nuclear Science, 51(1), 58-62, 2004

2.Kazuo Kurashige*, Akihiro Gunji*, Mitsushi Kamata*, Naoaki Shimura*, Hiroyuki Ishibashi*, Kazuhiro Yoshida*, N Senguttvan*, Keiji Sumiya*, Shigenori Shimizu, Hideo Murayama: Large GSO single crystals with a diameter of 100 mm and their scintillation performance, IEEE Transactions on Nuclear Science, 51(3), 742-745, 2004

3.Tomoaki Tsuda, Hideo Murayama, Keishi Kitamura, Taiga Yamaya, Eiji Yoshida, Tomohide Omura, Hideyuki Kawai, Naoko Inadama, Narimichi Orita: A four-layers depth of interaction detector block for small animal PET, IEEE Transactions on Nuclear Science, 51(5), 2537-2542, 2004

4.Eiji Yoshida, Yuichi Kimura, Keishi Kitamura, Hideo Murayama: Calibration procedure for a DOI detector of high resolution PET through a Gaussian mixture model, IEEE Transactions on Nuclear Science, 51(5), 2543-2549, 2004

5.Naoko Inadama, Hideo Murayama, Mitsuo Watanabe*, Tomohide Omura, Takaji Yamashita*, Hideyuki Kawai, Narimichi Orita, Tomoaki Tsuda: Performance of 256ch flat panel PS-PMT with small crystals for a DOI PET Detector, IEEE Transactions on Nuclear Science, 52(1), 15-20, 2005

6.Tomoyuki Hasegawa, Mitsuo Ishikawa*, Kouichi Maruyama, Naoko Inadama, Eiji Yoshida, Hideo Murayama: Depth-of-Interaction Recognition Using Optical Filters for Nuclear Medicine Imaging, IEEE Transactions on Nuclear Science, 52(1), 4-7, 2005

7.Narimichi Orita, Hideo Murayama, Hideyuki Kawai, Naoko Inadama, Tomoaki Tsuda: Three-dimensional array of scintillation crystals with proper reflector arrangement for a depth of interaction detector., IEEE Transactions on Nuclear Science, 52(1), 8-14, 2005

8.Seiichi Yamamoto, Shozo Takamatsu*, Hideo Murayama, Kotaro Minato*: A block detector for a multislice depth-of-interaction MR-compatible PET, IEEE Transactions on Nuclear Science, 52, 33-37, 2005

9.山谷　泰賀、北村　圭司、萩原　直樹、小尾　高史、長谷川　智之、吉田　英治、津田　倫明、稲玉　直子、 和田　康弘*、村山　秀雄: 小動物用 DOI-PET 装置″jPET-RD″の２次元イメージングシミュレーション、医学物理、25(1)、13-23、2005

10. Yeom Jung*, Hiroyuki Takahashi, Takaaki Ishizu, Masaharu Nakazawa*, Hideo Murayama: Development of a high resolution APD based animal PET and multi-channel waveform-sampling front-end ASIC, Journal of Nuclear Science and Technology, Supplement(4), 279-282, 2004

11. Yeom Jung*, Hiroyuki Takahashi, Takaaki Ishizu, Masaharu Nakazawa*, Hideo Murayama: Development of a multi-channel Waveform Sampling ASIC for Animal PET with DOI Information, Nuclear Instruments & Methods in Physics Research Section A, A525, 221-224, 2004

12. Tomoyuki Hasegawa, Eiji Yoshida, Taiga Yamaya, Kouichi Maruyama, Hideo Murayama: On-clock non-paralyzable count-loss model, Physics in Medicine and Biology, 49, 547-555, 2004

［重粒子線がん治療臨床試験］

1.Takashi Nakano*, Shingo Kato, Tatsuya Ohno, Hirohiko Tsujii, Shinichirou Satou, Kenjirou Fukuhisa, Tatsuo Arai: Long-term Results of High-Dose-Rate Intracavitary Brachytherapy for Squamous Cell Carcinoma of the Uterine Cervix, Cancer, 103(1), 92-101, 2005

2.Reiko Imai, Tadashi Kamada, Hiroshi Tsuji, Takeshi Yanagi, Masayuki Baba, Tadaaki Miyamoto, Shingo Kato, Susumu Kandatsu, Junetsu Mizoe, Hirohiko Tsujii, et.al: Carbon Ion Radiotherapy for Unresectable Sacral Chordomas, Clinical Cancer Research, 10, 5741-5746, 2004

3.Gaku Oohira, Shigeru Yamada, Takenori Ochiai*, Hisahiro Matsubara*, Shin-ichi Okazumi*, Koichi Ando, Hirohiko Tsujii, Hideaki Shimada*: Growth suppression of esophageal squamous cell carcinoma induced by heavy carbon-ion beams combined with p53 gene transfer, International Journal of Oncology, 25, 563-569, 2004

4.Hirotoshi Katou, Hirohiko Tsujii, Tadaaki Miyamoto, Junetsu Mizoe, Tadashi Kamada, Hiroshi Tsuji, Shigeru Yamada, Susumu Kandatsu, Kyosan Yoshikawa, Takayuki Obata, Hidefumi Ezawa, Shinroku Morita, Masao

Ootou, et.al: Results of the First Prospective Study of Carbon Ion Radiotherapy for Hepatocellular Carcinoma with Liver Cirrhosis, International Journal of Radiation Oncology Biology Physics, 59(5), 1468-1476, 2004

5.Yoshiyuki Suzuki*, Takashi Nakano*, Shingo Kato, Tatsuya Ohno, Hirohiko Tsujii, Kuniyuki Oka*: Immunohistochemical Study of Cell Cycle-associated Proteins in Adenocarcinoma of the Uterine Cervix Treated with Radiotherapy Alone: p53 Status Has a Strong Impact on Prognosis, International Journal of Radiation Oncology Biology Physics, 60(1), 231-236, 2004

6.Junetsu Mizoe, Hirohiko Tsujii, Tadashi Kamada, Yoshisuke Matsuoka*, Hiroshi Tsuji, Yasuhiro Osaka*, Azusa Hasegawa, Nobuharu Yamamoto, Satoshi Ebihara*, Akiyoshi Konno*, et.al: Dose escalation study of carbon ion radiotherapy for locally advanced head-and-neck cancer, International Journal of Radiation Oncology Biology Physics, 60(2), 358-364, 2004

7.Takashi Uno*, Shigeo Yasuda, Hisao Ito*: Hyperfractionated Radiation Therapy for Locoregionally Advanced Nasopharyngeal Cancer, Japanese Journal of Clinical Oncology, 35(3), 116-120, 2005

8.田中　潤一*、市川　秀樹*、伊藤　亜希*、相川　弦*、松崎　英雄*、吉川　京燦：原発不明頸部リンパ節転移扁平上皮癌の１例、日本口腔外科学会雑誌、50(6)、388-391、2004

9.今井　礼子、鎌田　正、辻　比呂志、柳　剛、吉川　京燦、辻井　博彦：重粒子線（炭素イオン線）を用いた転移性骨腫瘍の治療、骨・関節・靭帯、17(4)、422-427、2004

10. Ryonfa Lee, Shigeru Yamada, Naoyoshi Yamamoto, Tadaaki Miyamoto, Koichi Ando, Marco Durante*, Hirohiko Tsujii: Chromosomal Aberrations in Lymphocytes of Lung Cancer Patients Treated with Carbon Ions, Journal of Radiation Research, 45(2), 195-199, 2004

11. Masao Ootou, Hirotoshi Katou, Hirohiko Tsujii, Hitoshi Maruyama*, Shouichi Matsutani*, Hitoshi Yamagata*: Vascular Flow Patterns of Hepatic Tumors in Contrast-Enhanced 3-Dimensional Fusion Ultrasonography Using Plane Shift and Opacity Control Modes, Journal of Ultrasound in Medicine, 24(1), 49-57, 2005

12. Hidehisa Hoshino*, Kiyosi Shibuya*, Akira Iyoda*, Masayuki Baba, et.al: Biological features of bronchial squamous dysplasia followed up by autofluorescence bronchoscopy, Lung Cancer, 46, 187-196, 2004

13. Masashi Koto*, Tadaaki Miyamoto, Naoyoshi Yamamoto, Hideki Nishimura, Syougo Yamada*, Hirohiko Tsujii: Local control and recurrence of stage I non-small cell lung cancer after carbon ion radiotherapy, Radiotherapy and Oncology, 71(2), 147-156, 2004

14. Hirohiko Tsujii, Junetsu Mizoe, Tadashi Kamada, Masayuki Baba, Shingo Kato, Hirotoshi Katou, Hiroshi Tsuji, Shigeru Yamada, Shigeo Yasuda, Tatsuya Ohno, Takeshi Yanagi, Azusa Hasegawa, Toshiyuki Sugawara, Hidefumi Ezawa, Susumu Kandatsu, Kyosan Yoshikawa, Riwa Kishimoto, Tadaaki Miyamoto: Overview of

Clinical Experiences on Carbon Ion Radiotherapy at NIRS, Radiotherapy and Oncology, 73(Suppl.2), 41-49, 2004

15.長谷川　安都佐：下顎孔伝達麻酔による三叉神経誘発電位(Trigeminal Somatosensory Evoked Potentials:TSEPs)の経時的変化、愛知学院大学歯学会誌、43(1)、47-53、2005

16. Yoshikazu Aoka*, Tadashi Kamada, Hirohiko Tsujii, et.al: Primary cardiac angiosarcoma treated with carbon-ion radiotherapy, The Lancet Oncology, 5(10), 636-638, 2004

17.柳　剛、辻井　博彦、辻　比呂志、溝江　純悦、鎌田　正、金井　達明、遠藤　真広、簑原　伸一*、宮原　信幸、中野　隆史、大西　克尚、その他：脈絡膜悪性黒色腫に対する粒子線治療ー陽子線を中心としてー、定位的放射線治療(脳神経外科 Advanced Practice ; 1)、8、153-161、2004

[（２）放射線感受性遺伝子研究]

[放射線感受性遺伝子研究]

1.Yoshifumi Matsui, Takehide Asano*, Takashi Kanmochi*, Mayumi Iwakawa, Takashi Imai, Takenori Ochiai*: Effects of carbon-ion beams on human pancreatic cancer cell lines that differ in genetic status., American Journal of Clinical Oncology, 27, 24-28, 2004

2.Mayumi Iwakawa, Shuhei Noda, Toshie Oota, Chisa Kitazawa, Hiroko Tanaka, Atsushi Tsuji, Atsuko Ishikawa, Takashi Imai: Strain dependent differences in a histological study of CD44 and collagen fibers with an expression analysis of inflammatory response related genes in irradiated murine lung, Journal of Radiation Research, 45(3), 423-433, 2004

3.Toshie Oota, Mayumi Iwakawa, Chisa Kitazawa, Shuhei Noda, Minfu Yang*, Miyako Gotou, Hiroko Tanaka, Yoshinobu Harada, Takashi Imai: Fractionated irradiation augments inter-strain variation of skin reactions among three strains of mice, Journal of Radiation Research, 45(4), 515-519, 2004

4.Sadayuki Ban, Chika Konomi, Mayumi Iwakawa, Shigeru Yamada, Tatsuya Ohno, Hiroshi Tsuji, Shuhei Noda, Yoshifumi Matsui, Yoshinobu Harada, John B. Cologne, Takashi Imai: Radiosensitivity of peripheral blood lymphocytes obtained from patients with cancers of the breast, head and neck or cervix as determined with a micronucleus assay, Journal of Radiation Research, 45(4), 535-541, 2004

5.Yoshifumi Matsui, Miyako Gotou, Mayumi Iwakawa, Takehide Asano*, Takashi Kanmochi*, Takashi Imai, Takenori Ochiai*: Modified radiosensitivity of pancreatic cancer xenografts by farnesyl protein transferase inhibitor and MEK inhibitor, Oncology Reports, 10, 1525-1528, 2003

6.Bai Jie*, Hajime Nakamura*, Shugo Ueda *, Yong-Won Kwon*, Toru Tanaka *, Sadayuki Ban, Junji Yodoi*: Proteasome-dependent Degradation of Cyclin D1 in 1-Methyl-4-phenylpyridinium Ion (MPP+)-induced Cell Cycle Arrest, The Journal of Biological Chemistry, 279(37), 38710-38714, 2004

[（３）放射線人体影響研究]
[宇宙放射線による生体影響と防護に関する研究]

1.Tom K Hei*, Rudranath Persaud*, Hongning Zhou*, Masao Suzuki: Genotoxicity in the eyes of bystander cells, Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 568, 111-120, 2004

2.Maki Okada, Shiori Saitou, Ryuichi Okayasu: Facilitated detection of chromosome break and repair at low levels of ionizing radiation by addition of wortmannin to G1-type PCC fusion incubation, Genetic Toxicology and Environmental Mutagenesis : A Section of Mutation Research, 562, 11-17, 2004

3.Satoshi Kodaira, Nobuyuki Hasebe*, Atsushi Kitagawa, Hisashi Kitamura, Shinji Satou, Yukio Uchihori, Nakahiro Yasuda: Mass Resolution for Iron-Isotopes in CR-39 Track Detector., Japanese Journal of Applied Physics, 43(9A), 6358-6363, 2004

4.保田　浩志、藤高　和信、高木　俊治*、岩井　敏*: 航空機乗務員の被ばく管理に関する考察、保健物理、39(4)、345-351、2004

5.福田　俊、飯田　治三、弥吉　直子: ビーグル犬の脛骨近位骨幹端の骨密度、断面積および骨強度指数の年齢変化、日本骨形態計測学会雑誌、14、23-30、2004

6.Masashi Takada, Ichiro Awaya*, Satoshi Iwai*, Mitsuo Iwaoka*, Makio Masuda, Takuya Kimura, Shunji Takagi*, Osamu Sato*, Takashi Nakamura, Kazunobu Fujitaka: Progress report on the phoswich neutron detector to measure high-energetic neutron spectra onboard an aircraft and a spacecraft, Journal of Nuclear Science and Technology, supplement4, 399-402, 2004

7.Satoshi Fukuda, Haruzo Iida: Age-Related Changes in Bone Mineral Density, Cross-Sectional Area and the Strength of Long Bones in the Hind Limbs and First Lumber Vertebra in Female Wister Rats, Journal of Veterinary Medical Science, 66(7), 755-760, 2004

8.Kenji Shinozaki*, Masahiro Teshima*, Yukio Uchihori, et.al: AGASA Results, Nuclear Physics B - Proceedings Supplements, 136, 18-27, 2004

9.Masashi Takada, Hisashi Kitamura, Tatsumi Koi, Takashi Nakamura, Kazunobu Fujitaka: Measured proton sensitivities of bubble detectors, Radiation Protection Dosimetry, 111(2), 181-189, 2004

10. Masao Suzuki, Hongning Zhou*, Charles R Geard*, Tom K Hei*: Effect of medium on chromatin damage in bystander mammalian cells, Radiation Research, 162, 0264-0269, 2004

11. Chizuru Tsuruoka, Masao Suzuki, Tatsuaki Kanai, Kazunobu Fujitaka: LET and ionspecies dependence for cell killing in normal human skin fibroblasts, Radiation Research, 163, 494-500, 2005

12. Kazunobu Fujitaka, Masaharu Okano, Yukio Uchihori, Hisashi Kitamura: Cosmic radiation at aircraft altitudes calculated by CARI-6 and its comparison with measurements, The Natural Radiation Environment VII : Seventh International Symposium on the Natural Radiation Environment (NRE-VII) Rhodes, Greece,20-24 May 2002(Radioactivity in the Environment ; Vol. 7), 858-862, 2005

［低線量放射線の生体影響に関する総合的研究］

1.Futoshi Hirai, Shigeatsu Motoori*, Shizuko Kakinuma, Kazuo Tomita*, Hiroko Ito, Hirotoshi Katou, Taketo Yamaguti, Hsiuchuan Yen*, Daret Clair*, Tetsuo Nagano*, Toshihiko Ozawa, Hiromitsu Saisho*, Hideyuki Majima*: Mitochondrial Signal Lacking Manganese Superoxide Dismutase Failed to Prevent Cell Death by Reoxygenation of following Hypoxia in a Human pancreatic Cancer Cell Line, KP4, Antioxidants & Redox Signaling, 6(3), 523-535, 2004

2.Takanori Katsube, Shin Togashi*, Naoko Hashimoto*, Toshiaki Ogiu, Hideo Tsuji: Filamentous actin binding ability of cortactin isoforms is responsible for their cell-cell junctional localization in epithelial cells, Archives of Biochemistry and Biophysics, 427(1), 79-90, 2004

3.Toyoki Maeda*, Yoshiharu Chijiiwa*, Hideo Tsuji, Saburo Sakoda*, Kenzaburo Tani*, Tomokazu Suzuki*: Somatic DNA recombination yielding circular DNA and deletion of a genomic region in embryonic brain, Biochemical and Biophysical Research Communications, 319, 1117-1123, 2004

4.Hideo Tsuji, Hiroko Ishii-Ohba, Takanori Katsube, Hideki Ukai, Shirou Aizawa, Masahiro Doi, Kyoji Hioki*, Toshiaki Ogiu: Involvement of Illegitimate V(D)J Recombination or Microhomology-Mediated Nonhomologous End-Joining in the Formation of Intragenic Deletions of the Notch1 Gene in Mouse Thymic Lymphomas, Cancer Research, 64, 8882-8890, 2004

5.Naoko Shiomi, Masahiko Mori, Seiji Kito, Yoshinobu Harada, Kiyoji Tanaka*, Tadahiro Shiomi: Severe growth retardation and short life span of double-mutant mice lacking Xpa and exon 15 of Xpg, DNA Repair , 4, 351-357, 2005

6.Takeshi Yasuda, Kaoru Sugasawa*, Yuichiro Simizu*, Sigenori Iwai*, Tadahiro Shiomi, Fumio Hanaoka*: Nucleosomal structure of undamaged DNA regions suppresses the non-specific DNA binding of the XPC complex, DNA Repair , 4, 389-395, 2005

7.Manabu Matsuda*, Tatsuhiko Imaoka, Archie, J. Vomachka*, Gary A. Gudelsky*, Zhaoyuan Hou*, Meenakshi, J. Mistry*, Jason P. Bailey*, Kathryn M. Nieport*, Diego J. Walther*, Michael Bader*, Nelson D. Horseman*: Serotonin Regulates Mammary Gland Development via an Autocrine-Paracrine Loop, Developmental Cell, 6(2), 193-203, 2004

8.Taeko Miyazaki*, Masatake Yamauchi, Mariko Takami*, Jun Kohbara*: Putative ultraviolet-photosensitivity in the retina of one-year-old nibbler Girella punctata based on molecular and histological evidences, Fisheries Science, 71, 159-167, 2005

9.Shizuko Kakinuma, Mayumi Nishimura, Ayumi Kubo, Junya Nagai, Yoshiko Amasaki, Hideyuki Majima*, Toshihiko Sado, Yoshiya Shimada: Frequent retention of heterozygosity for point mutations in p53 and Ikaros in N-ethyl-N-nitrosourea-induced mouse thymic lymphomas, Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 572(1-2), 132-141, 2005

10. Hiroshi Tanooka, Tomotaka Sobue: RISK AROUND THE WORLD Cancer Mortality Studies in Misasa, a Radon Hot Spring in Japan:A Summary up to 2003, Human and Ecological Risk Assessment, 10(6), 1189-1194, 2004

11. Tatsuhiko Imaoka, Mayumi Nishimura, Ayako Teramoto, Yukiko Nishimura, Masami Ootawara, Harumi Osada, Shizuko Kakinuma, Akihiko Maekawa*, Yoshiya Shimada: Cooperative induction of rat mammary cancer by radiation and 1-methyl-1-nitrosourea via the oncogenic pathways involving c-Myc activation and H-ras mutation, International Journal of Cancer, 115(2), 187-193, 2005

12. Naoko Shiomi, Seiji Kito, Masaki Oyama*, Tsukasa Matsunaga*, Yoshinobu Harada, Masahito Ikawa*, Masaru Okabe*, Tadahiro Shiomi: Identification of the XPG region that causes the onset of Cockayne syndrome by using Xpg mutant mice generated by the cDNA-mediated knock-in method, Molecular and Cellular Biology, 24(9), 3712-3719, 2004

13. Gen Suzuki*, Yoshiya Shimada, Makoto Akashi, Toshiyasu Hirama, et.al: An Association between Oxidative Stress and Radiation-Induced Lymphomagenesis, Radiation Research, 161, 642-647, 2004

[（４）放射線障害研究]

[緊急被ばく医療に関する研究]

1.Satoshi Fukuda, Haruzo Iida, Xueming Yan*, Yuyuan Xie*: Effects of long-term orally administered Zn-DTPA and CBMIDA on Plutonium-induced cancers and shortening of life span in rats., Biomarkers and Environment, 5(5), 14-16, 2004

2.Satoshi Fukuda, Haruzo Iida, Xueming Yan*, Yuyuan Xie*: Effects of CBMIDA and EHBP on removal of uranium and the side effects in rats, Biomarkers and Environment, 5(5), 17-20, 2004

3.Satoshi Fukuda, Haruzo Iida, Ramon Burgada*, Theodorine Bailly*: Effects of DTPP,CAP,LIHOPO and DTPA on removal of plutomium in rats, Biomarkers and Environment, 5(5), 21-22, 2004

4.Kazunori Anzai, Masako Furuse, Akira Yoshida, Azusa Matsuyama, Takashi Moritake, Koji Tsuboi*, Nobuo Ikota: In Vivo Radioprotection of Mice by 3-Methyl-1-phenyl-2-pyrazolin-5-one (Edaravone; Radicut), a Clinical Drug, Journal of Radiation Research, 45(2), 319-323, 2004

5.Manabu Koike, Aki Koike: The Establishment and Characterization of Cell Lines Stably Expressing Human Ku80 Tagged with Enhanced Green Fluorescent Protein, Journal of Radiation Research, 45, 119-125, 2004

6.Misao Hachiya, Makoto Akashi: Catalase regulates cell growth in HL60 human promyelocytic cells: evidence for growth regulation by H2O2, Radiation Research, 163(3), 271-282, 2005

7.Kenzo Fujimoto, Yutaka Noda: Gamma ray direction finder, The Natural Radiation Environment VII : Seventh International Symposium on the Natural Radiation Environment (NRE-VII) Rhodes, Greece,20-24 May 2002(Radioactivity in the Environment ; Vol. 7), 118-125, 2005

［基礎的・萌芽的研究］
［理事長調整費による研究課題］
［ＰＩＸＥ分析における分析値の品質保証に関わる基盤データ取得のための研究］

1.Keitaro Nakao*, Yasuo Suzuki*, Hitoshi Imaseki, Hisamasa Joshima, Itsurou Tamanoi, Yasushi Saito*: Use of Rubidium, Manganese, and Zinc as Tracers to Measure Intestinal Permeability by PIXE Analysis, Biological Trace Element Research, 98(1), 27-44, 2004

2.Katsumi Saitoh, Yoshito Watanabe, Hitoshi Imaseki, Masae Yukawa: Application of Micro-PIXE in Atmospheric Environmental Science Research:Elemental Maps in Root of Siebold's Beech Seeding, International Journal of PIXE, 13(3&4), 115-119, 2003

3.Shigeo Matsuyama*, Keizo Ishii*, Hiromichi Yamazaki*, Y Barbotteau*, TS Amartaivan*, D Izukawa*, K Hotta*, K Mizuma*, S Abe*, Y Ohishi*, M Rodriguez*, A Suzuki*, R Sakamoto*, M Fujisawa*, Tomihiro Kamiya*, Masakazu Oikawa*, Kazuo Arakawa*, Hitoshi Imaseki, N Matsumoto*: Microbeam Analysis System at Tohoku University, International Journal of PIXE, 14(1/2), 1-7, 2004

4.Noriko Kagemori*, Nobuyuki Aikawa*, K Ishimaru*, Shuichi Kawai*, Masae Yukawa, Hitoshi Imaseki, Kouichirou Sera*, Syouji Futatsugawa*: Sulfur in a Fossil Wood from the Pleistocene Marine Clay, International Journal of PIXE, 14(1/2), 67-73, 2004

［放射性物質の存在位置と核種の遠隔同定法の研究］

1.白川　芳幸：全方向性 γ 線検出器の開発、Radioisotopes、53(8)、445-450、2004

［基盤研究］

［（１）環境系基盤研究］

［ラドンの環境中における動態と生物影響に関する研究］

1.Hirokazu Ichitsubo, Yuji Yamada: Effect of a grounded object on radon measurement using Alphaguard, Health Physics, 87(1), 79-81, 2004

2.Paitoon Wanapongse*, Harnwongse Thamrong*, Sriratanabal Adung*, Shinji Tokonami, Somchai Bovornkitti*: Seasonal Variation of Ambient Radon Levels : A Study in Mae Hong Son Province, Internal Medicine Journal of Thailand, 20(2), 104-107, 2004

3.細田　正洋、下　道國、杉野　雅人、古川　雅英、福士　政広*：ラドン・トロン散逸率の in situ 測定およびその地質的解釈、保健物理、39(3), 206-214, 2004

4.Quanfu Sun*, Shinji Tokonami, Chongsong Hou*, Shouzhi Zhang*, Suminori Akiba*, Weihai Zhuo, Masahide Furukawa, Tetsuo Ishikawa, Hidenori Yonehara, Yuji Yamada: Epidemiological Potentials of Radon- and Thoron-Prone Area in China, Japanese Journal of Health Physics, 39(3), 257-262, 2004

5.Yuu Ishimori, Tetsuo Ishikawa, Shinji Tokonami: Radon Intercomparison Experiment at PTB in Germany, Japanese Journal of Health Physics, 39(3), 263-267, 2004

6.Z. Gorjanacz*, A. Varhegyi*, J. Somlai*, T. Kovacs*, N. Kavasi*, Csaba Nemeth, Shinji Tokonami: Outdoor Radon Concentration at a Uranium Tailings Site and Its Occupational Radiation Dose, Japanese Journal of Health Physics, 39(4), 391-395, 2004

7.Takeshi Iimoto, Shinji Tokonami, Yasuaki Morishita*, Toshisou Kosako*: Application of activated charcoal radon collectors in high humidity environments, Journal of Environmental Radioactivity, 78, 69-76, 2005

8.Paitoon Wanapongse*, Thawatchai Itthipoonthanakorn*, Yutthana Tumnoi*, Kittichai Wattananikorn*, Suksawad Sirijarukul*, Shinji Tokonami, Weihai Zhuo, Yuji Yamada, Tetsuo Ishikawa, Somchai Bovornkitti*: Survey for Radon Gas Levels with Alpha-track Detector, Journal of Health Science (Thailand), 13(3), 414-420, 2004

9.T. Kovacs*, et.al: 238U, 226Ra, 210Po concentrations of bottled mineral waters in Hungary and their committed effective dose, Radiation Protection Dosimetry, 108(2), 175-181, 2004

10. Tetsuo Ishikawa: Effects of thoron on a radon detector of pulse-ionization chamber type, Radiation Protection Dosimetry, 108(4), 327-330, 2004

11. Shinji Tokonami, Quanfu Sun, Suminori Akiba, Weihai Zhuo, Masahide Furukawa, Tetsuo Ishikawa, Chongsong Hou*, Shouzhi Zhang*, Yukinori Narazaki*, Baku Ooji, Hidenori Yonehara, Yuji Yamada: Radon and thoron exposures for cave residents in shanxi and shaanxi provinces, Radiation Research, 162(4), 390-396, 2004

12. Takeshi Iimoto, et.al: Using an Imaging Plate to Measure the Concentration of Radon Progeny in Air, Radioisotopes, 53(9), 461-468, 2004

13. Weihai Zhuo, Shinji Tokonami, Hidenori Yonehara, Yuji Yamada: Integrating measurements of radon and thoron and their deposition fractions in the respiratory tract, The Natural Radiation Environment VII : Seventh International Symposium on the Natural Radiation Environment (NRE-VII) Rhodes, Greece,20-24 May 2002(Radioactivity in the Environment ; Vol. 7), 352-360, 2005

14. Shinji Tokonami, Hidenori Yonehara, Suminori Akiba*, M.v. Thampi*, Weihai Zhuo, Yukinori Narazaki*, Yuji Yamada: Natural radiation levels in Tamil Nadu and Kerala, India, The Natural Radiation Environment VII : Seventh International Symposium on the Natural Radiation Environment (NRE-VII) Rhodes, Greece,20-24 May 2002(Radioactivity in the Environment ; Vol. 7), 554-559, 2005

15. Shinji Tokonami, Quanfu Sun*, Suminori Akiba*, Tetsuo Ishikawa, Masahide Furukawa, Weihai Zhuo, Chongsong Hou*, Shouzhi Zhang*, Yukinori Narazaki*, Hidenori Yonehara, Yuji Yamada: Natural radiation exposures for cave residents in China, The Natural Radiation Environment VII : Seventh International Symposium on the Natural Radiation Environment (NRE-VII) Rhodes, Greece,20-24 May 2002(Radioactivity in the Environment ; Vol. 7), 560-566, 2005

［環境放射線防護体系構築のための研究］

1.Jian Zheng, Masatoshi Yamada, Wang Zhonglian, Tatsuo Aono, Masashi Kusakabe: Determination of Plutonium and its isotopic ratio in marine sediment samples using quadrupole ICP-MS with shield torch system under normal plasma conditions, Analytical and Bioanalytical Chemistry, 379, 532-539, 2004

2.白石　久二雄：微量元素と食物、日本微量元素学会誌、15(3)、225-234、2004

3.Kunio Shiraishi, Yasuyuki Muramatsu, Susumu Ko, Sarata Kumar Sahoo, P. V. Zamostyan*, Nikolay.Y. Tsigankov*, I. P. Los*, V.N. Korzun*: Dietary intake of bromine for Ukrainian subjects, Biomedical Research on Trace Elements, 15(3), 268-271, 2004

4.Susumu Ko, Kunio Shiraishi, Sarata Kumar Sahoo, Larisa Shevchuk*, V. Shevchuk*, P. V. Zamostyan*: Daily intake of major and trace elements in residents of Gomel oblast, Belarus, Biomedical Research on Trace Elements, 15(3), 272-274, 2004

5.Jian Zheng, Masatoshi Yamada: Sediment core record of global fallout and Bikini close-in fallout Pu in Sagami Bay, western Northwest Pacific margin, Environmental Science & Technology, 38(13), 3498-3504, 2004

6.Masatoshi Yamada: Material transport processes on the continental margin in the East China Sea, Global Environmental Change in the Ocean and on Land, 173-187, 2004

7.Kunio Shiraishi, Sahoo Sarata Kumar, et.al: Dose Effect for Japanese due to 232Th and 238U in Imported Drinking Water, Health Physics, 86(4), 365-372, 2004

8.Zora S. Zunic*, Kenzo Fujimoto: A comparison of human exposure to natural radiation and DU in parts of the Balkan region, High Levels of Natural Radiation and Radon Areas : Radiation Does and Health Effects : Proceedings of the 6th International Conference on High Levels of Natural Radiation and Radon Areas, held in Osaka, Japan between 6 and 10 September 2004(International Congress Series ; no.1276), 1276, 141-144, 2005

9.Shinji Yoshinaga, Michael Hauptmann*, Alice Sigurdson*, Michele Doody*, Michal Freedman*, Bruce Alexander*, Martha Linet*, Elaine Ron*, Kiyohiko Mabuchi*: Nonmelanoma skin cancer in relation to ionizing radiation exposure among U.S. radiologic technologists, International Journal of Cancer, 115, 828-834, 2005

10. Sarata Kumar Sahoo, Yuji Nakamura, Kunio Shiraishi, Akimasa Masuda*: Accurate measurement of uranium isotope ratios in soil samples using thermal ionization mass spectrometry equipped with a warp energy filter, International Journal of Environmental Analytical Chemistry, 84(12), 919-926, 2004

11. Katsumi Saitoh, Hitoshi Imaseki, Masae Yukawa, Osamu Nagafuchi*: Application of Micro-PIXE in Atmospheric Environmental Science Research: Elemental Map of Leaves, International Journal of PIXE, 12(3/4), 231-236, 2002

12. Saitou Katsumi*, Hitoshi Imaseki, Masae Yukawa: Attempt at In-air-PIXE Analysis of Spot Samples on a Filter-tape Mounted in an Automated Beta-ray Absorption Mass Monitor, International Journal of PIXE, 14(1/2), 43-48, 2004

13. Malek M. Abdul*, Motokazu Nakahara, Ryouichi Nakamura: Uptake, retention and organ/tissue distribution of ^{137}Cs by Japanese catfish (Silurus asotus Linnaeus), Journal of Environmental Radioactivity, 77, 191-204, 2004

14. Sahoo Sarata Kumar, Kenzo Fujimoto, Igor Celikovic*, Predrag Ujic*, Zora Zunic*: Distibution of Uranium, Thorium, and Isotopic Composition of Uranium in Soil Samples of South Serbia: Evidence of Depleted Uranium, Journal of Nuclear Science and Technology, 19(1), 26-30, 2004

15. Malek M. Abdul*, Motokazu Nakahara, Ryouichi Nakamura: Removal of Cs-137 in Japanese Catfish during Preparation for Consumption, Journal of Radiation Research, 45(2), 309-317, 2004

16. Shino Homma-Takeda, Yoshikazu Nishimura, Yoshito Watanabe, Hitoshi Imaseki, Masae Yukawa: Stage-specific and age-dependent profiles of zinc, copper, managanese, and selenium in rat seminiferous tubules, Journal of Radioanalytical and Nuclear Chemistry, 259(3), 521-525, 2004

17. Yasuhiko Yoshimoto, Shinji Yoshinaga, Kazuhide Yamamoto, Kenzo Fujimoto, Kanae Nishizawa, Yasuhito Sasaki: Research on potential radiation risks in areas with nuclear power plants in Japan: leukaemia and malignant lymphoma mortality between 1972 and 1997 in 100 selected municipalities, Journal of Radiological Protection, 24(4), 343-368, 2004

18. Nobuhito Ishigure, Masaki Matsumoto, Takashi Nakano, Hiroko Enomoto: Development of Software for Internal Dose Calculation from Bioassay Measurements, Radiation Protection Dosimetry, 109(3), 235-242, 2004

19. Shinji Yoshinaga, Kiyohiko Mabuchi*, Alice Sigurdson*, Michele Doody*, Elaine Ron*: Cancer risks among radiologists and radiologic technologists: review of epidemiologic studies, Radiology, 233(2), 313-321, 2004

20. Jian Zheng, Masatoshi Yamada: Vertical distributions of 239+240Pu activities and 240Pu/239Pu atom ratios in sediment cores: implications for the sources of Pu in the Japan Sea, Science of The Total Environment, 340(1/3), 199-211, 2005

[放射線等の環境リスク源による人・生態系への比較影響研究]

1.Keiko Tagami, Shigeo Uchida: Use of TEVA resin for the determination of U isotopes in water samples by Q-ICP-MS, Applied Radiation and Isotopes, 61(2/3), 255-259, 2004

2.Matsui Kazuaki*, Nobuyoshi Ishii, Mie Honjo*, Zenichiro Kawabata*: Use of the SYBR Green I fluorescent dye and a centrifugal filter device for rapid determination of dissolved DNA concentration in fresh water, Aquatic Microbial Ecology, 36, 99-105, 2004

3.Shoichi Fuma, Hiroshi Takeda, Yuichi Takaku*, Shunichi Hisamatsu*, Zenichiro Kawabata*: Effects of Dysprosium on the Species-defined Microbial Microcosm, Bulletin of Environmental Contamination and Toxicology, 74(2), 263-272, 2005

4.Kazuhiko Sawada*, Hiromi Sakata-Haga*, Sun Xue Zhi, Setsuji Hisano*, Yoshihiro Fukui*: Abnormal expression of tyrosine hydroxylase not accompanied by phosphorylation at serine 40 in cerebellar Purkinje cells of ataxic mutant mice, rolling mouse Nagoya and dilute-lethal, Congenital Anomalies, 44, 46-50, 2004

5.Nobuyoshi Ishii, Kazuaki Matsui*, Shoichi Fuma, Hiroshi Takeda, Zenichiro Kawabata*: Release of transforming plasmid DNA from actively growing genetically engineered Escherichia coli., FEMS Microbiology Letters, 240, 151-154, 2004

6.Hiroshi Takeda, Kiriko Miyamoto, Shoichi Fuma, Nobuyoshi Ishii, Kei Yanagisawa: Subcellular distribution of organically bound tritium in the rat liver after ingestion of tritiated water and some tritiated organic compounds, Fusion Science and Technology, 48, 755-758, 2005

7.Seigo Amachi*, Mizuyo Kasahara*, Takaaki Fujii*, Hirofumi Shinoyama*, Satoshi Hanada*, Yoichi Kamagata*, Tadaaki Ban-nai, Yasuyuki Muramatsu: Radiotracer Experiments on Biological Volatilization of Organic Iodine from Coastal Seawaters, Geomicrobiology Journal, 21, 481-488, 2004

8.Yasuyuki Muramatsu, Satoshi Yoshida, Udo Fehn*, Seigo Amachi, Yoichiro Ohmomo*: Studies with natural and anthropogenic iodine isotopes: iodine distribution and cycling in the global environment, Journal of Environmental Radioactivity, 74, 221-232, 2004

9.Satoshi Yoshida, Yasuyuki Muramatsu, A. Dvornik*, T. Zhuchenko*, I. Linkov*: Equilibrium of radiocesium with stable cesium within the biological cycle of contaminated forest ecosystems, Journal of Environmental Radioactivity, 75, 301-313, 2004

10. Keiko Tagami, Shigeo Uchida: Development of a separation method for uranium isotopic mass ratio measurement in environmental samples by ICP-MS, Journal of Nuclear Science and Technology, Suppl. 4, 431-434, 2004

11. Yoshihisa Kubota, Sentaro Takahashi, Hiroshi Sato, Katsutoshi Suetomi, Shirou Aizawa: Radiation-Induced Apoptosis in Peritoneal Resident Macrophages of C3H Mice, Journal of Radiation Research, 45(2), 205-211, 2004

12. Tadaaki Ban-nai, Yasuyuki Muramatsu, Satoshi Yoshida: Concentrations of 137Cs and 40K in mushrooms consumed in Japan and radiation dose as a result of their dietary intake, Journal of Radiation Research, 45(2), 325-332, 2004

13. Yasuyuki Muramatsu, Satoshi Yoshida, Tadaaki Ban-nai, Makoto Akashi: Determination of radionuclides in human and environmental samples from the criticality accident in Tokai-mura, Japan, Journal of Radioanalytical and Nuclear Chemistry, 262(1), 129-134, 2004

14.柳澤　啓、武田　洋、宮本　霧子、府馬　正一、石井　伸昌：赤外線吸収法による微量試料中の ^{13}C 分析、Radioisotopes, 54(1), 11-14, 2005

15. Yoshihisa Kubota, Sentaro Takahashi, Hiroshi Sato: Significant contamination of superoxide dismutases and catalases with lipopolysaccharide-like substances, Toxicology In Vitro, 18, 711-718, 2004

[（２）生物系基盤研究]

[放射線に対するレドックス制御に関する研究]

1.Hiroshi Ishihara, Izumi Tanaka, Fumiko Ishihara, Keiko Suzuki, Chieko Yoshino, Cheerarattana Cheeramakara*, Hong Wan*, Makoto Akashi: Transient reporter RNA assay: quantification of reporter gene mRNA during immediate early response in mammalian cells based on real-time reverse transcription polymerase chain reaction., Analytical Biochemistry, 341(2), 369-371, 2005

2.Hong Wan*, Hiroshi Ishihara: Expression of JunB Induced by X-rays in mice, Biomedical and Environmental Sciences , 17, 327-332, 2004

3.Akira Hanaki, Junichi Ueda, Nobuo Ikota: Ternary Complexes from Cu(II)-Oligopeptide and N-Acetyl-L-Histidine, as Studied by Circular Dichroism Spectroscopy, Bulletin of the Chemical Society of Japan, 77(8), 1475-1477, 2004

4.Akira Hanaki, Junichi Ueda, Nobuo Ikota: Stability of the Cu(II) Complexes of Tripeptodes, Cu(H_2L), in Dynamic Aspects; L=Tripeptides Composed of Various Combinations of alpha-, beta-, and gamma-Amino Acid Residues. Stopped-flow Kinetic Studies on the Reaction of Cu(H_2L) with Cysteine, Bulletin of the Chemical Society of Japan, 77(9), 1639-1645, 2004

5.Ikuo Nakanishi, Shigenobu Matsumoto*, Kei Ohkubo*, Kiyoshi Fukuhara*, Haruhiro Okuda*, Keiko Inami*, Masataka Mochizuki*, Toshihiko Ozawa, Shinobu Itoh*, Shunichi Fukuzumi*, Nobuo Ikota: EPR Study on Stable Magnesium Complexes of the Phenoxyl Radicals Derived from a Vitamin E Model and Its Deuterated Derivatives, Bulletin of the Chemical Society of Japan, 77(9), 1741-1744, 2004

6.Keizo Takeshita, Kaori Fujii, Kazunori Anzai, Toshihiko Ozawa: In vivo monitoring of hydroxyl radical generation caused by x-ray irradiation of rats using the spin trapping/EPR technique, Free Radical Biology and Medicine, 36(9), 1134-1143, 2004

7.Masaichi-chang-il Lee*, Hirofumi Shoji*, Hiroyuki Miyazaki*, Kazunori Anzai, Nobuo Ikota, Toshihiko Ozawa, et.al: Assessment of Oxidative Stress in the Spontaneously Hypertensive Rat Brain Using Electron Spin Resonance (ESR) Imaging and in Vivo L-Band ESR, Hypertension Research, 27, 485-492, 2004

8.Ikuo Nakanishi, Tomonori Kawashima, Kiyoshi Fukuhara*, Hideko Kanazawa*, Haruhiro Okuda*, Shunichi Fukuzumi*, Toshihiko Ozawa, Nobuo Ikota: Water-Accelerated Radical-Scavenging Reaction of (+)-Catechin in an Aprotic Medium, ITE Letters on Batteries, New Technologies & Medicine, 5(6), 585-588, 2004

9.Keizo Takeshita, Tokuko Takajo*, Hiroshi Hirata*, Mitsuhiro Ono*, Hideo Utsumi*: In vivo oxygen radical generation in the skin of the protoporphyria model mouse with visible light exposure: an L-band ESR study, Journal of Investigative Dermatology, 122(6), 1463-1470, 2004

10. Hiroshi Inano, Makoto Onoda: Nitric oxide produced by inducible nitric oxide synthase is assoiciated with mammary tumorigenesis in irradiated rats, Nitric Oxide : Biology and Chemistry, 12(1), 15-20, 2005

11. Ikuo Nakanishi, Tomonori Kawashima, Kei Ohkubo*, Hideko Kanazawa*, Keiko Inami*, Masataka Mochizuki*, Kiyoshi Fukuhara*, Haruhiro Okuda*, Toshihiko Ozawa, Shinobu Itoh*, Shunichi Fukuzumi*, Nobuo Ikota: Electron-Transfer Mechanism in Radical-Scavenging Reactions by a Vitamin E Model in a Protic Medium, Organic & Biomolecular Chemistry, 3(4), 626-629, 2005

12. Junichi Ueda, Nobuo Ikota, Toshiyuki Shinoduka*, Tatsuaki Yamaguchi*: Reactive oxygen species scavenging ability of a new compound derived from weathered coal, Spectrochimica Acta Part A, Molecular and Biomolecular Spectroscopy, 60, 2487-2492, 2004

13. Badal Kumar Mandal, Yasumitsu Ogra*, Kazunori Anzai, Kazuo T. Suzuki*: Speciation of arsenic in biological samples, Toxicology and Applied Pharmacology, 198, 307-318, 2004

［放射線影響研究のための実験動物の開発に関する研究］

1.Seiji Kito, Tatsuo Hayao, Yoshiko Noguchi*, Yuki Ohta, Hideki Uhara*, Shintarou Tateno: Improved in Vitro Fertilization and Development by Use of Modified Human Tubal Fluid and Applicability of Pronucleate Embryos for Cryopreservation by Rapid Freezing in Inbred Mice, Comparative Medicine, 54(5), 564-570, 2004

2.Junya Hiroi*, Kouichi Maruyama, Kouji Kawazu*, Toyoji Kaneko*, Ritsuko Ohtani-Kaneko*, Shigeki Yasumasu*: Structure and developmental expression of hatching enzyme genes of the Japanese eel Anguilla japonica: an aspect of the evolution of fish hatching enzyme gene, Development Genes and Evolution, 214(4), 176-184, 2004

3.Kouichi Maruyama, Shigeki Yasumasu*, Kiyoshi Naruse*, Takashi Mitani*, Akihiro Shima*, Ichiro Iuchi*: Genomic Organization and Developmental Expression of Globin Genes in the Teleost Oryzias latipes, Gene, 335, 89-100, 2004

4.Kouichi Maruyama: Genomic Organization and Developmental Expression Patterns of Globin Genes in the Medaka, Oryzias latipes, Sophia Life Science Bulletin, 23, 49-57, 2004

［放射線応答遺伝子発現ネットワーク解析研究］

1.Hiroshi Tanooka: X chromosome inactivation-mediated cellular mosaicism for the study of the monoclonal origin and recurrence of mouse tumors: a review, Cytogenetic and Genome Research, 104, 320-324, 2004

2.Hiroshi Tanooka: Radiation-induced versus endogenous DNA damage: commentary on Pollycove and Feinendegen, Human & Experimental Toxicology, 22, 315-317, 2003

［放射線障害に関する基盤的研究］

1.Masahiro Murakami, Reiko Kanda, Masako Minamihisamatsu, Isamu Hayata: Characterization of ionizing radiation-induced ring chromosomes by atomic force microscopy, Analytical Biochemistry, 334(2), 251-256, 2004

2.A Wojcik*, E Gregoire*, Isamu Hayata, L Roy*, S Sommer*, G Stephan*, P Voisin*: Cytogenetic damage in lymphocytes for the purpose of dose reconstruction: a review of three recent radiation accidents, Cytogenetic and Genome Research, 104, 200-205, 2004

3.Isamu Hayata, Wang Chun Yan, Zhang Wei, Chen Deqing*, Masako Minamihisamatsu, Hiroshige Morishima*, Wei Luxin*, Tsutomu Sugahara*: Effect of high-level natural radiation on chromosomes of residents in southern China, Cytogenetic and Genome Research, 104, 237-239, 2004

4.Tomohisa Hirobe, Rikako Furuya*, Ouji Ifuku*, Masatake Osawa*, Shin-ichi Nishikawa*: Granulocyte-macrophage colony-stimulating factor is a keratinocyte-derived factor involved in regulating the proliferation and differentiation of neonatal mouse epidermal melanocytes in culture, Experimental Cell Research, 297(2), 593-606, 2004

5.Reiko Kanda, Youko Yamagishi, Isamu Hayata: Sister chromatid exchanges in ring chromosomes following X-irradiation of human lymphocytes, International Journal of Radiation Biology, 80(5), 363-368, 2004

6.Sachiko Ichimura, Mitsuru Nenoi, Kazuei Mita*, Kunihiko Fukuchi*, Koei Hamana*: Accumulation of spermidine/spermine N1-acetyltransferase and alternatively spliced mRNAs as a delayed response of HeLa S3 cells following X-ray irradiation, International Journal of Radiation Biology, 80(5), 369-375, 2004

7.Kaoru Tanaka, Keiko Watanabe, Shuichi Yamaguchi, Maki Hasegawa, Masanobu Kitagawa, Shirou Aizawa: Cytological basis for enhancement of radiation-induced mortality by Friend leukaemia virus infection, International Journal of Radiation Biology, 80(9), 673-681, 2004

8.Yumiko Nitta*, Kazuko Yoshida, et.al: Spontaneous and Radiation-induced Leukemogenesis of the Mouse small Eye Mutant, Pax6Sey3H, Journal of Radiation Research, 45, 245-251, 2004

9.Wei Zhang, Wang Chun Yan, Chen Deqing*, Masako Minamihisamatsu, Hiroshige Morishima*, Yuan Yongling*, Wei Luxin*, Tsutomu Sugahara*, Isamu Hayata: Effect of Smoking on Chromosomes Compared with That of Radiation in the Residents of a High-Background Radiation Area in China, Journal of Radiation Research, 45, 441-446, 2004

10. Yumiko Nitta, Kazuko Yoshida, et.al: Effects of a Hemizygous Deletion of Mouse Chromosome 2 on the Hematopoietic and Intestinal Tumorigenesis, Journal of Toxicologic Pathology, 17, 105-112, 2004

11. Tomohisa Hirobe, Rikako Furuya*, Eijiro Hara*, Izumi Horii*, Ouji Ifuku*, et.al: Granulocyte-macrophage colony-stimulating factor (GM-CSF) controls the proliferation and differntiation of mouse epidermal melanocytes from pigmented spots induced by ultraviolet radiation B, Pigment Cell Research, 17(3), 230-240, 2004

12. Tomohisa Hirobe, Sakae Takeuchi*, Kazumasa Wakamatsu*, Shosuke Ito*, et.al: Pheomelanin production in the epidermis from newborn agouti mice is induced by the expression of the agouti gene in the dermis, Pigment Cell Research, 17(5), 506-514, 2004

13. Tomohisa Hirobe, Sakae Takeuchi*, et.al: The melanocortin receptor-1 gene but not the proopiomelanocortin gene is expressed in melanoblasts and contributes their differentiation in the mouse skin, Pigment Cell Research, 17(6), 627-635, 2004

14. Tomohisa Hirobe: Role of Keratinocyte-Derived Factors Involved in Regulating the Proliferation and Differentiation of Mammalian Epidermal Melanocytes, Pigment Cell Research, 18(1), 2-12, 2005

15. Tetsuo Nakajima, Osami Yukawa, Chihiro Azuma*, Harumi Ohyama, Wang Bing, Isamu Hayata, Hiroko Inaba, et.al: Involvement of Protein Kinase C-Related Anti-apoptosis Signaling in Radiation-Induced Apoptosis in Murine Thymic Lymphoma (3SBH5) Cells, Radiation Research, 161,528-534,2004

[（３）重粒子線治療に関する基盤研究]

[重粒子線がん治療臨床試験評価のための情報処理に関する研究]

1.中島　祥次*、西尾　将人*、安藤　裕、塚本　信宏*、川嶋　弘尚*：医用画像における JPEG 圧縮への耐性を強化した電子透かし埋め込み法の提案、Medical Imaging Technology、22(4)、191-196、2004

2.西尾　将人*、安藤　裕、塚本　信宏*、川嶋　弘尚*: 画像処理に対する電子透かし強度と画質劣化の検討、日本放射線技術学会雑誌、60(4)、500-506、2004

[重粒子線及び標準線量測定法の確立に関する研究開発]

1.Masataka Komori, Takuji Furukawa, Tatsuaki Kanai, Kouji Noda: Optimization of Spiral-Wobbler System for Heavy-Ion Radiotherapy, Japanese Journal of Applied Physics, 43(9A), 6463-6467, 2004

2.Taku Inaniwa, Takehiro Tomitani, Toshiyuki Kohno*, Tatsuaki Kanai: Quantitative comparison of suitability of various beams for range monitoring with induced Beta^+^ activity in hadron therapy, Physics in Medicine and Biology, 50, 1131-1145, 2005

[重粒子線治療の普及促進に関する研究]

1.Tatsuaki Kanai, Akifumi Fukumura, Yohsuke Kusano*, Munefumi Shinbo, Teiji Nishio: Corss-calibration of ionization chambers in proton and carbon beams, Physics in Medicine and Biology, 49, 771-781, 2004

[照射方法の高精度化に関する研究開発]

1.Ryosuke Kohno, Nobuyuki Kanematsu, Ken Yusa*, Tatsuaki Kanai: Experimental evaluation of analytical penumbra calculation model for wobbled beams, Medical Physics, 31(5), 1153-1157, 2004

2.Ryosuke Kohno, Nobuyuki Kanematsu, Tatsuaki Kanai, Ken Yusa*: Evaluation of pencil beam algorithm for therapeutic carbon ion beam in presence of bolus, Medical Physics, 31(8), 2249-2253, 2004

3.Qiang Li, Atsushi Kitagawa, Tatsuaki Kanai, Mitsutaka Kanazawa, Eriko Urakabe, Takehiro Tomitani, Shinji Satou, Wei Zhang*: Therapeutic purpose 9C beams produced in the secondary beam line at HIMAC, Nuclear Instruments & Methods in Physics Research Section B, 222, 270-284, 2004

4.Qiang Li, Atsushi Kitagawa, Mitsutaka Kanazawa, Eriko Urakabe, Tatsuaki Kanai, Takehiro Tomitani, Shinji Satou, Wei Zhang*: The production of 9C beam in the secondary beam line of the HIMAC facility and its potential application in cancer theapy, Nuclear Physics A, 746, 288c-292c, 2004

5.Mitsutaka Kanazawa, Atsushi Kitagawa, Teiji Nishio*, Masami Torikoshi, Kouji Noda, Takeshi Murakami, Shinji Satou, Mitsuru Suda, Takehiro Tomitani, Tatsuaki Kanai, Yasuyuki Futami*, Munefumi Shinbo*, Eriko Urakabe, Yasushi Iseki*: Present status of secondary beam courses in HIMAC, Nuclear Physics A, 746, 393c-396c, 2004

6.Nobuyuki Kanematsu, Hiroshi Asaskura*, Ryosuke Kohno, Osamu Takahashi*: Tumour shapes and fully automated range compensation for heavy charged particle radiotherapy, Physics in Medicine and Biology, 49(2), N1-N5, 2004

7.Qiang Li, Tatsuaki Kanai, Atsushi Kitagawa: The potential application of beta-delayed particle decay beam 9C in cancer therapy, Physics in Medicine and Biology, 49(9), 1817-1831, 2004

8.Yasushi Iseki*, Tatsuaki Kanai, Mitsutaka Kanazawa, Atsushi Kitagawa, Hideyuki Mizuno*, Takehiro Tomitani, Mitsuru Suda, Eriko Urakabe: Range verification system using positron emitting beams for heavy-ion radiotherapy, Physics in Medicine and Biology, 49, 3179-3195, 2004

9.Qiang Li, Masataka Komori, Tatsuaki Kanai, Atsushi Kitagawa, Eriko Urakabe, Mitsutaka Kanazawa, Takehiro Tomitani, Shinji Satou: The LET spectra at different penetration depths along secondary 9C and 11C beams, Physics in Medicine and Biology, 49, 5119-5133, 2004

［粒子線がん治療装置の小型化に関する研究開発］

1.Takeshi Takeuchi, Kouji Noda, Shinnji Shibuya, Fadil Hicham*, Masahiro Ikegami*, Hiromu Tongu*, Toshiyuki Shirai*, Yoshihisa Iwashita*, Akira Noda*: Design and measurement of the S-LSR quadrupole magnet considering the influence of a neighboring field clamp, IEEE Transactions on Applied Superconductivity, 14(2), 445-448, 2004

2.Michel Beutelspacher*, Manfred Grieser*, Kouji Noda, D Schwalm*, A Wolf*: Dispersive electron cooling experiments at the heavy ion storage ring TSR, Nuclear Instruments & Methods in Physics Research Section A, 512, 459-469, 2003

3.Takuji Furukawa, Kouji Noda, Masayuki Muramatsu, Tomonori Uesugi, Shinnji Shibuya, Hideyuki Kawai*, Eiichi Takada, Satoru Yamada: Grobal spill control in RF-knockout slow-extraction, Nuclear Instruments & Methods in Physics Research Section A, 522, 196-204, 2004

4.Chihiro Ohmori*, Mitsutaka Kanazawa, Kouji Noda, Tomonori Uesugi, Yoshihisa Shirakabe, Akinori Sugiura, Yoshiharu Mori, Suguru Mutou: Beam diagnostics using a chopped beam, Nuclear Instruments & Methods in Physics Research Section A, 526, 215-221, 2004

5.Yoshinori Hashimoto, Takashi Fujisawa, Toshihiro Honma, Kouji Noda, Yukio Satou, Satoru Yamada: Oxygen gas-sheet beam profile monitor for the synchrotron and storage ring, Nuclear Instruments & Methods in Physics Research Section A, 527, 289-300, 2004

6.Tetsumi Tanabe, Kouji Noda, E Syresin*: An Electrostatic Storage Ring with A Merging Electron Beam Device at KEK, Nuclear Instruments & Methods in Physics Research Section A, 532, 105-110, 2004

7.Michel Beutelspacher*, Fadil Hicham*, Takuji Furukawa, Manfred Grieser*, Akira Noda*, Kouji Noda, D Schwalm*, A Wolf*: Electron cooling experiments at the heavy ion storage ring TSR, Nuclear Instruments & Methods in Physics Research Section A, 532, 123-128, 2004

8.Kouji Noda, Shinnji Shibuya, Daisuke Tann*, Shirou Ninomiya, Tomonori Uesugi, Takuji Furukawa, Toshihiro Honma, Takashi Fujisawa, Masayuki Muramatsu, et.al: Electron cooling of bunched ion beam at NIRS-HIMAC, Nuclear Instruments & Methods in Physics Research Section A, 532, 129-136, 2004

9.Hicham Fadil*, Manfred Grieser*, Akira Noda*, Kouji Noda, Toshiyuki Shirai*, E Syresin*: Design of a compact electron cooler for the S-LSR, Nuclear Instruments & Methods in Physics Research Section A, 532, 446-450, 2004

10. Toshiyuki Shirai*, Fadil Hicham*, Masahiro Ikegami*, Hiromu Tongu*, Yoshihisa Iwashita*, Akira Noda*, Kouji Noda, Shinnji Shibuya, Takeshi Takeuchi, Kota Okabe*, Yosuke Yuri*, Hiromi Okamoto*, Manfred Grieser*, E Syresin*: S-LSR: test ring for beam crystal, its design and ordering simulation, Nuclear Instruments & Methods in Physics Research Section A, 532, 488-491, 2004

11. Masahiro Ikegami*, Mikio Tanabe*, Toshiyuki Shirai*, Hiromu Tongu*, Kouji Noda, Manfred Grieser*, Akira Noda*: Deflection element for a dispersion-adjustable ion storage ring, Nuclear Instruments & Methods in Physics Research Section A, 532, 492-496, 2004

12. Takeshi Takeuchi, Kouji Noda, Shinnji Shibuya, Fadil Hicham*, Masahiro Ikegami*, Yoshihisa Iwashita*, Toshiyuki Shirai*, Hiromu Tongu*, Akira Noda*: Optimization of lattice quadrupole magnets for cooler ring, S-LSR, Nuclear Instruments & Methods in Physics Research Section A, 532, 497-502, 2004

13. Takuji Furukawa, Kouji Noda: Contribution of synchrotron oscillation to spill ripple in RF-knockout slow-extraction, Nuclear Instruments & Methods in Physics Research Section A, 539, 44-53, 2005

14. Viatcheslava Shevelko*, Kouji Noda, Yukio Satou, H Tawara*, et.al: Loss of Positive Ion Beam by Interaction with Residual Gases during Acceleration, Nuclear Instruments & Methods in Physics Research Section B, 211, 460-464, 2003

15. Yukio Satou, Tomohiro Miyoshi*, Takeshi Murakami, Kouji Noda, V Schevelko*, H Tawara*: Penetration of 4.3 and 6.0 MeV/u highly charged, heavy ions through carbon foils, Nuclear Instruments & Methods in Physics Research Section B, 225, 439-448, 2004

16.E Syresin*, Kouji Noda, Tetsumi Tanabe: Possibilities of Electron Cooling in Low Energy Electrostatic Storage Rings, Physica Scripta, T104, 185-188, 2003

17. Tetsumi Tanabe*, Kouji Noda, et.al: Electron-Biomolecular Ion Collisions in an Electrostatic Storage Ring, Physica Scripta, T110, 268-270, 2004

18. Tetsumi Tanabe, Kouji Noda, et.al: Regular Threshold-Energy Increase with Charge for Neutral-Particle Emission in Collisions of Electrons with Oligonucleotide Anions, Physical Review Letters, 93(4), 043201-1-043201-4, 2004

19. Tomonori Uesugi, Takashi Fujisawa, Kouji Noda, Yoshinori Hashimoto, Shinji Machida, Wasuke Mori: Observation of beam-size blowup due to half-integer resonance in a synchrotron, Physical Review Special Topics : Accelerator and Beams (Online Only ; URL:http://prst-ab.aps.org/), 7, 064203-1-064203-7, 2004

20. Tomohiro Miyata*, Tomohiro Miyoshi*, Tetsuya Sakuma*, Mitsugu Yamamoto*, Atsushi Kitagawa, Masayuki Muramatsu, Yukio Satou: Improvement of the yield of highly charged ions by a gas-pulsing technique and the current status of the NIRS Penning source, Review of Scientific Instruments, 75(5), 1863-1865, 2004

21. Masayuki Muramatsu, Atsushi Kitagawa, Yukio Sakamoto, Yukio Satou, Satoru Yamada, Hirotsugu Ogawa, Arne Drentje*, Sandor Biri*, Yasuhiko Yoshida*: Compact ECR ion source with permanent magnets for carbon therapy, Review of Scientific Instruments, 75(5), 1925-1927, 2004

［粒子線治療の生物効果に関する研究］

1.Giafranco Grossi*, Marco Durante*, G Gialanella*, Malia Antonella Pugliese*, P Scampoli*, Yoshiya Furusawa, Tatsuaki Kanai, Naruhiro Matsufuji: Chromosomal Aberrations Induced by High-Energy Iron Ions With Shielding, Advances in Space Research, 34, 1358-1361, 2004

2.Takeo Takahashi*, Takashi Nakano*, Kuniyuki Oka, Koichi Ando: Transitional increase in growth fraction estimated by Ki-67 index after irradiation to human tumor in xenograft, Anticancer Research, 24, 107-110, 2004

3.Tetsuya Kawata*, Hisao Ito*, Takashi Uno*, Masayoshi Saito*, S Yamamoto*, Yoshiya Furusawa, Marco Durante*, Kerry George*, Honglu Wu*, Francesca A Cucinotta*: G2 chromatid damage and repair kinetics in normal human fibroblast cells exposed to low- or high-LET radiation, Cytogenetic and Genome Research, 104, 211-215, 2004

4.Marco Durante*, Koichi Ando, Yoshiya Furusawa, G Obe*, Kerry George*, Francesca A Cucinotta*: Complex chromosomal rearrangements induced in vivo by heavy ions, Cytogenetic and Genome Research, 104, 240-244, 2004

5.Akihisa Takahashi*, Hideki Matsumoto*, Mizuho Aoki, Yoshiya Furusawa, Ken Ohnishi*, Takeo Ohnishi*, et.al: High-LET radiation enhanced apoptosis but not necrosis regardless of p53 status, International Journal of Radiation Oncology Biology Physics, 60(2), 591-597, 2004

6.Chunlin Shao*, Mizuho Aoki, Yoshiya Furusawa: Bystander effect in lymphoma cells vicinal to irradiated neoplastic epithelial cells: Notric oxide is involved, Journal of Radiation Research, 45(1), 97-103, 2004

7.Yasuyuki Miyato, Koichi Ando: Apoptosis of Human Melanoma Cells by a Combination of Lonidamine and Radiation, Journal of Radiation Research, 45(2), 189-194, 2004

8.Takayuki Obata, Koichi Ando, Sachiko Koike, Chisa Oohira*, Hiroshi Yasuda, Hiroo Ikehira, Shuji Tanada, Hirohiko Tsujii: Changes in the pharmacokinetics of Gd-DTPA in Experimental Tumors after Charged Particle Radiation: Comparison with gamma-ray Radiation, Journal of Radiation Research, 45(2), 261-267, 2004

9.Takeshi Fukawa, Koji Takematsu*, Kotaro Oka*, Sachiko Koike, Koichi Ando, Hirosuke Kobayashi*, Kazuo Tanishita*: Differences in pO2 Peaks of a Murine Fibrosarcoma between Carbon-ion and X-ray Irradiation, Journal of Radiation Research, 45(2), 303-308, 2004

10. Nobuhiko Takai, Sun Xue Zhi, Koichi Ando, Kenichi Mishima, Sentaro Takahashi: Ectopic Neurons in the Hippocampus may be a Cause of Learning Disability after Prenatal Exposure to X-rays in Rats, Journal of Radiation Research, 45(4), 563-569, 2004

11. Hong Lan Yin*, Yuka Suzuki*, Yoshihisa Matsumoto*, Masanori Tomita*, Yoshiya Furusawa, Atsushi Enomoto*, Akinori Morita*, Mizuho Aoki, Fumio Yatagai*, Yoshio Hosoi*, Kuni Ohtomo*, Norio Suzuki*: Radiosensitization by hyperthermia in the chicken B-lymphocyte cell line DT40 and its derivatives lacking nonhomologous end joining and/or homologous recombination pathways of DNA double-strand break repair, Radiation Research, 162, 433-441, 2004

12. Yuusuke Demizu, Kazufumi Kagawa*, Yasuo Ejima, Hideki Nishimura*, Ryohei Sasaki*, Toshinori Soejima*, Toshihiro Yanou*, Shouichi Shimizu*, Yoshiya Furusawa, Yoshio Hishikawa*, Kazurou Sugimura*: Cell biological basis for combination radiotherapy using heavy-ion beams and high-energy X-rays, Radiotherapy and Oncology, 71, 207-211, 2004

［（４）画像診断に関する基盤的研究］

［NMR に関する基盤的研究］

1.Junichi Takanashi, et.al: Influenza-Associated Encephalitis/Encephalopathy with a Reversible Lesion in the Splenium of the Corpus Callosum:A Case Report and Literature Review, American Journal of Neuroradiology, 25(5), 798-802, 2004

2.Naokatsu Saeki*, Hiroo Ikehira, et.al: Histologic characteristics of normal perivascular spaces along the optic tract: new pathogenetic mechanism for edema in tumors in the pituitary region, American Journal of Neuroradiology, 25(7), 1218-1222, 2004

3.Hiroko Tada, Junichi Takanashi, et.al: Reversible White Matter Lesion in Methionine Adenosyltransferase I/III Deficiency, American Journal of Neuroradiology, 25, 1843-1845, 2004

4.Koichi Ito, Kazuyuki Saito, et.al: Clinical Trials of Interstitial Microwave Hyperthermia by Use of Coaxial-Slot Antenna With Two Slots, IEEE Transactions on Microwave Theory and Techniques, 52(8), 1987-1991, 2004

5.Toshiaki Osuga*, Takayuki Obata, Hiroo Ikehira: Proton magnetic resonance imaging of flow motion of heavy water injected into a hollow fiber dialyzer filled with saline, Magnetic Resonance Imaging, 22(3), 413-416, 2004

6.Toshiaki Osuga*, Takayuki Obata, Hiroo Ikehira: Detection of Small Degree of Nonuniformity in Dialysate Flow in Hollow-Fiber Dialyzer Using Proton Magnetic Resonace Imaging, Magnetic Resonance Imaging, 22(3), 417-420, 2004

7.Hiroo Ikehira, Atsuya Watanabe, Takayuki Obata, Hideshige Moriya*, et.al: The development of a three-dimensional T1 image calculation program in proportion to the DICOM data of any marketing clinical MRI systems, Magnetic Resonance Imaging, 22(4), 595-597, 2004

8.Toshiaki Osuga*, et.al: Proton Magnetic resonace imaging of Diffusion of high- and low- molecular - weight contrast agents in opaque porous media saturated with water, Magnetic Resonance Imaging, 22(7), 1039-1042, 2004

9.Yoko Kanazawa, et.al: 19F Magnetic resonance imaging of perfluorooctanoic acid encapsulated in liposome for biodistribution measurement, Magnetic Resonance Imaging, 22, 855-860, 2004

10. Hiroko Tada, Junichi Takanashi, et.al: Clinically mild encephalitis/encephalopathy with a reversible splenial lesion, Neurology, 63, 1854-1858, 2004

11.齊藤　一幸、伊藤　公一、その他：組織内加湿用同軸スロットアンテナへの整合回路の装荷による入力インピーダンスの改善に関する検討、電子情報通信学会論文誌 B，通信、J87-B(10)、1741-1748、2004

［PET 及び SPECT に関する基盤的研究］

1.Tsuneyoshi Ota, Hitoshi Shinoto, Kiyoshi Fukushi, Shinnichiro Nagatsuka, Hiroki Namba, Masaomi Iyo*, Akiyo Aotsuka, Noriko Tanaka, Koichi Sato, Tetsuya Shiraishi, Shuji Tanada, Heii Arai*, Toshiaki Irie: A simple method for the detection of abnormal brain regions in Alzheimer's disease patients using [11C]MP4A: Comparison with [123I]IMP SPECT, Annals of Nuclear Medicine, 18(3), 187-193, 2004

2.Toshimitsu Fukumura, Ryuji Nakao, Masatoshi Yamaguchi*, Kazutoshi Suzuki: Stability of 11C-labeled PET radiopharmaceuticals, Applied Radiation and Isotopes, 61(6), 1279-1287, 2004

3.Ming-Rong Zhang, Kazutoshi Suzuki: Sources of carbon which decrease the specific activity of [11C]CH3I synthesized by the single pass I2 method, Applied Radiation and Isotopes, 62, 447-450, 2005

4.Shigeki Sasaki*, Fumie Kurosaki*, Terushi Haradahira, Fumihiko Yamamoto*, Jun Maeda, Takashi Okauchi, Kazutoshi Suzuki, Tetsuya Suhara, Minoru Maeda*: Synthesis of 11C-Labelled Bis(phenylalkyl)amines and Their in Vitro and in Vivo Binding Properties in Rodent and Monkey Brains, Biological and Pharmaceutical Bulletin , 27(4), 531-537, 2004

5.Tatsuya Kikuchi, Ming-Rong Zhang, Nobuo Ikota, Kiyoshi Fukushi, Toshimitsu Okamura, Kazutoshi Suzuki, Yasushi Arano, Toshiaki Irie: N-[18F]fluoroethylpiperidin-4-ylmethyl butyrate: a novel radiotracer for quantifying brain butyrylcholinesterase activity by positron emission tomography, Bioorganic & Medicinal Chemistry Letters, 14, 1927-1930, 2004

6.Hitoshi Shinoto, Kiyoshi Fukushi, Shinnichiro Nagatsuka, Toshiaki Irie: Acetylcholinesterase Imaging: Its Use in Therapy Evaluation and Drug Design, Current Pharmaceutical Design, (10), 1505-1517, 2004

7.Hong Zhang, Noboru Oriuchi*, Tetsuya Higuchi*, Keigo Endou: Comparison of 11C-choline PET and FDG PET for the differential diagnosis of malignant tumors, European Journal of Nuclear Medicine and Molecular Imaging, 31(8), 1064-1072, 2004

8.Tadayoshi Doke*, Mikio Yamamoto, et.al: Performance of a Prototype of Liquid Xenon Scintillation Detector System for Positron Emission Tomography, Japanese Journal of Applied Physics, 43(2), 779-784, 2004

9.Koichi Sato, Kiyoshi Fukushi, Hitoshi Shinoto, Shinnichiro Nagatsuka, Noriko Tanaka, Akiyo Aotsuka, Tsuneyoshi Ota, Tetsuya Shiraishi, Shuji Tanada, Masaomi Iyo*, Toshiaki Irie: Evaluation of Simplified Kinetic Analyses for Measurement of Brain Acetylcholinesterase Activity Using N-[11C]Methylpiperidin-4-yl Propionate and Positron Emission Tomography, Journal of Cerebral Blood Flow and Metabolism, 24(6), 600-611, 2004

10. Ming-Rong Zhang, Masanao Ogawa*, Kenji Furutsuka, Yuichirou Yoshida, Kazutoshi Suzuki: [^{18}F]Fluoromethyl iodide ([^{18}F]FCH2I):preparation and reactions with phenol,thiophenol,amide and amine functional groups, Journal of Fluorine Chemistry, 125, 1879-1886, 2004

11. Ming-Rong Zhang, Jun Maeda, Masanao Ogawa*, Junko Noguchi*, Takehito Ito*, Yuichirou Yoshida, Takashi Okauchi, Shigeru Obayashi, Tetsuya Suhara, Kazutoshi Suzuki: Development of a New Radioligand, N-(5-Fluoro-2-phenoxyphenyl)-N-(2-[^{18}F]fluoroethyl-5-methoxybenzyl)acetamide,for PET Imaging of Peripheral Benzodiazepine Receptor in Primate Brain, Journal of Medicinal Chemistry, 47(9), 2228-2235, 2004

12. Keitaro Tanoi, Junko Hojo*, Tomoko Nakanishi, Kazutoshi Suzuki: New technique to trace [^{15}O]water uptake in a living plant with an imaging plate and a BGO detector system, Journal of Radioanalytical and Nuclear Chemistry, 263(2), 547-552, 2005

13. Szelecsenyi Ferenc, Zoltan Kovacs*, Kazutoshi Suzuki, Kazuhiro Okada*, Toshimitsu Fukumura, Kensaku Mukai*: Formation of 60Cu and 61Cu via Co+3He reactions up to 70 MeV:Production possibility of 60Cu for PET studies, Nuclear Instruments & Methods in Physics Research Section B, (222), 364-370, 2004

14. Toshimitsu Fukumura, Masatoshi Yamaguchi*, Kazutoshi Suzuki: Radiolysis of an aqueous [11C]iomazenil solution, Radiochimica Acta, 92(2), 119-123, 2004

15. Naoyuki Watanabe, Shuji Tanada, Noboru Oriuchi*, Keigo Endou*, Yasuhito Sasaki: Accelerated Pulmonary Clearance of Aerosolized Tc-99m-Diethylenetriamine Pentaacetic Acid (DTPA) in a Patient with Primary Hyperparathyroidism, World Journal of Nuclear Medicine, 3(2), 144-147, 2004

[（５）医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]
[医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]

1.小野　孝二*、赤羽　恵一、羽田　道彦*、高野　嘉久*、甲斐　倫明*、草間　朋子*: 視覚評価のための肺腺癌模擬病変ファントムの開発、日本放射線技術学会雑誌、60(9), 1301-1307, 2004

[（６）脳機能研究]
[脳機能研究]

1.Junichi Semba, Nozomi Akanuma*, Maki Wakuta*, Tetsuya Suhara, et.al: Alterations in the expressions of mRNA for GDNF and its receptors in the ventral midbrain of rats exposed to subchronic phencyclidine, Brain Research Molecular Brain Research, 124, 88-95, 2004

2.Hiroto Hatakeyama*, Hidetaka Akita, Tetsuya Suhara, Hideyoshi Harashima, et.al: Factors governing the in vivo tissue uptake of transferrin-coupled polyethylene glycol liposomes in vivo, International Journal of Pharmaceutics, 281(1/2), 25-33, 2004

3.Daigo Sakamoto*, Hisaaki Kudou, Keiji Inohaya*, Hayato Yokoi*, Takanori Narita*, Kiyoshi Naruse*, Takashi Mitani*, Kazuo Araki*, Akihiro Shima*, Yuuji Ishikawa, Yoshiyuki Imai*, Akira Kudou*: A mutation in the gene for delta-aminolevulinic acid dehydratase (ALAD) causes hypochromic anemia in the medaka, Oryzias latipes, Mechanisms of Development, 121, 747-752, 2004

4.Takahito Yoshizaki*, Motoki Inaji, Kiyoshi Andou, Isao Date*, Tetsuya Suhara, Hideyuki Okano*, et.al: Isolation and transplantation of dopaminergic neurons generated from mouse embryonic stem cells, Neuroscience Letters, 363, 33-37, 2004

5.Aung U Winn, Takashi Okauchi, Masaaki Satou, Toshiyuki Saito, Hidehiko Nakagawa, Hiroshi Ishihara, Nobuo Ikota, Tetsuya Suhara, Kazunori Anzai: In-vivo PET imaging of inducible D2R reporter transgene expression using [^{11}C]FLB 457 as reporter probe in living rats, Nuclear Medicine Communications, 26(3), 259-268, 2005

6.Fumihiko Yasuno, Tetsuya Suhara, Yoshiro Okubo, Tetsuya Ichimiya, Akihiro Takano, Yasuhiko Sudo*, Makoto Inoue: Abnormal effective connectivity of dopamine D2 receptor binding in schizophrenia, Psychiatry Research, 138, 197-207, 2005

7.Junichi Semba, Maki Wakuta*, Tetsuya Suhara: Long-term suppression of methamphetamine-induced c-Fos expression in rat striatum by the injection of c-fos antisense oligodeoxynucleotides absorbed in water-absorbent polymer, Psychiatry and Clinical Neurosciences, 58, 531-535, 2004

8.Fumihiko Yasuno, Tetsuya Suhara, Yoshiro Okubo, Yasuhiko Sudo*, Makoto Inoue, Tetsuya Ichimiya, Akihiro Takano, Kazuhiko Nakayama*, Christer Halldin*, Lars Farde*: Low dopamine D2 receptor binding in subregions of the thalamus in schizophrenia, The American Journal of Psychiatry, 161, 1016-1022, 2004

9.Akihiro Takano, Tetsuya Suhara: The necessary parameters for estimating the time-course of receptor occupancy, The International Journal of Neuropsychopharmacology, 8, 143-144, 2005

10. Chun-Ying Yang*, Masami Yoshimoto*, Hao-Gang Xue*, Naoyuki Yamamoto*, Kosuke Imura*, Nobuhiko Sawai*, Yuuji Ishikawa, Hironobu Itou*: Fiber Connections of the Lateral Valvular Nucleus in a Percomorph Teleost, Tilapia (Oreochromis niloticus), The Journal of Comparative Neurology, 474, 209-226, 2004

11. Takahiro Kage, Hiroyuki Takeda*, Takako Yasuda*, Kouichi Maruyama, Naoyuki Yamamoto*, Masami Yoshimoto*, Kazuo Araki*, Keiji Inohaya*, Hiroyuki Okamoto*, Shigeki Yasumasu*, Kaori Watanabe,

Hironobu Itou*, Yuuji Ishikawa: Morphogenesis and regionalization of the medaka embryonic brain, The Journal of Comparative Neurology, 476, 219-239, 2004

12. Yuuji Ishikawa, Takahiro Kage, Naoyuki Yamamoto*, Masami Yoshimoto*, Takako Yasuda*, Atsuko Matsumoto, Kouichi Maruyama, Hironobu Itou*: Axonogenesis in the medaka embryonic brain, The Journal of Comparative Neurology, 476, 240-253, 2004

13. Sun Xue Zhi, Sentaro Takahashi, Yoshihisa Kubota, Rui Zhang*, Chun Cui*, Kumie Nojima, Yoshihiro Fukui*: Experimental model for irradiating a restricted region of the rat brain using heavy-ion beams, The Journal of Medical Investigation : JMI, 51(1,2), 103-107, 2004

［競争的研究］
［科学技術振興事業団共同研究：異分野研究者交流促進事業］
［多様計測による特殊生体機能に関する研究］

1.Weizhong Chen*, Tong Zhang*, Wang Fengtong*, Hideyuki Kokubo*, Mikio Yamamoto, et.al: The Skin Surface Temperature Change of Hand and Central Portion of Forehead during Qi-emission Task, Journal of International Society of Life Information Science, 21(1), 065-078, 2003

2.Weizhong Chen*, Tong Zhang*, Wang Fengtong*, Hideyuki Kokubo*, Mikio Yamamoto: Change of Hemoglobin Concentration of Cerebral Cortex and Respiration Frequency during Qi-emission Task, Journal of International Society of Life Information Science, 21(2), 473-485, 2003

3.陳　偉中*、張　トウ*、王　鳳桐*、小久保　秀之*、山本　幹男：光トポグラフィによる発気課題時の脳血液変化の研究、人体科学、12(2), 017-030, 2003

［共同研究］
［共同研究］
［ヒト腎細胞癌の発生・進展機構に関する研究］

1.Aki Iwai*, Yasuhisa Fujii*, Satoru Kawakami*, Ryoji Takazawa*, Yukio Kageyama*, Mitsuaki Yoshida, Kazunori Kihara*: Down-regulation of vascular endothelial growth factor in renal cell carcinoma cells by glucocorticoids, Molecular and Cellular Endocrinology, (226), 11-17, 2004

［個人業績］

［課題外］

［課題外］

1.Yong-Liang Yang*, Xu Han*, Masashi Kusakabe: POC fluxes from euphotic zone estimated from 234Th deficiency in winter in the northwestern North Pacific Ocean, Acta Oceanologica Sinica, 23(1), 135-147, 2004

2.細川　舞*、大野　達也、清原　浩樹*、その他：がん患者における倦怠感の評価と影響要因との関係、群馬大学医学部保健学科紀要、24、17-22、2003

3.Tetsuo Akimoto*, Tetsuo Nonaka*, Koichi Harashima*, Hitoshi Ishikawa, et.al: Selective inhibition of survival signal transduction pathways enhanced radiosensitivity in human esophageal cancer cell lines in vitro, Anticancer Research, 24(2B), 811-819, 2004

4.Hideyuki Sakurai*, Norio Mitsuhashi*, Koichi Harashima*, Hitoshi Ishikawa, Takashi Nakano*, et.al: CT-fluoroscopy guided interstitial brachytherapy with image-based treatment planning for unresectable locally recurrent rectal carcinoma, Brachytherapy, 3, 222-230, 2004

5.野口　海*、大野　達也、森田　智視*、相原　興彦*、辻井　博彦、その他：がん患者に対する Functional Assessment of Chronic Illness Therapy-Spiritual(FACIT-Sp)日本語版の信頼性・妥当性の検討（予備的調査）、癌と化学療法、31(3), 387-391, 2004

6.Hajime Kawakami*, Yong-Liang Yang*, Makio Honda*, Masashi Kusakabe: Particulate organic carbon fluxes estimated from 234Th deficiency in winters and springs in the northwestern North Pacific, Geochemical Journal, 38, 581-592, 2004

7.Makoto Sohda*, Hitoshi Ishikawa, et.al: Pretreatment evaluation of combined HIF-1alpha, p53 and p21 expression is a useful and sensitive indicator of response to radiation and chemotherapy in esophageal cancer, International Journal of Cancer, 110(6), 838-844, 2004

8.Tetsuo Akimoto*, Hideyuki Sakurai*, Hitoshi Ishikawa, Norio Mitsuhashi*: Radicicol potentiates heat-induced cell killing in a human oesophageal cancer cell line:the Hsp90 chaperone complex as a new molecular target for enhancement of thermosensitivity., International Journal of Radiation Biology, 80(7), 483-492, 2004

9.Hitoshi Ishikawa, Hideyuki Sakurai*, Masatoshi Hasegawa*, Norio Mitsuhashi*, Takashi Nakano*, et.al: Expression of hypoxic-inducible factor 1alpha predicts metastasis-free survival after radiation therapy alone in stage IIIB cervical squamous cell carcinoma, International Journal of Radiation Oncology Biology Physics, 60(2), 513-521, 2004

10.佐藤　善隆*、瀧田　憲晃*、羽石　秀昭*、土田　大輔*、森　豊*、外山　比南子、宮本　忠昭：胸部X線CT画像における葉間裂抽出とその重粒子線治療評価への応用、Medical Imaging Technology、22(5), 269-277, 2004

11. Minoru Tajiri, Masayoshi Sunaoka, Akifumi Fukumura, Masahiro Endo: A new radiation shielding block material for radiation therapy, Medical Physics, 31(11), 3022-3023, 2004

12. Nobuyuki Kanematsu, et.al: A straw drift chamber spectrometer for studies of rare kaon decays, Nuclear Instruments & Methods in Physics Research Section A, 522(3), 274-293, 2004

13. Kenzo Fujimoto: Evolution of radon dose evaluation, Nuclear Technology & Radiation Protection, 19(1), 3-11, 2004

14. Norio Nakata*, Susumu Kandatsu, Naoki Suzuki*, Kunihiko Fukuda*: Mobile Wireless DICOM Server System and PDA with High-Resolution Display:Feasibility of Group Work for Radiologists 1, Radiographics, 25(1), 273-283, 2005

15. Wataru Noguchi*, Tatsuya Ohno, Satoshi Morita*, Okihiko Aihara*, Hirohiko Tsujii, Koujirou Simoduma*, Eisuke Matsushima*: Reliability and validity of the Functional Assessment of Chronic Illness Therapy-Spiritual (FACIT-Sp) for Japanese patients with cancer, Supportive Care in Cancer, 12(4), 240-245, 2004

[技術支援・開発業務]

1.濱野　毅、安田　仲宏、今関　等、湯川　雅枝、古澤　佳也、鈴木　雅雄、松本　健一*：バイスタンダー効果と放医研SPICE計画、放射線、31(1)、15-23、2005

[太陽紫外線の生物作用とその評価]

1.Mizuho Aoki, Yoshiya Furusawa, Shouichi Higashi*, Masakatsu Watanabe*: Action spectra of apoptosis induction and reproductive cell death in L5178Y cells in the UV-B region, Photochemical and Photobiological Sciences, 3(3), 268-272, 2004

[受託研究及び行政のために必要な業務]
[外国人特別研究員試験研究費]
[ヒ素によって誘導されるアポトーシス：臓器、組織特異的な作用の機構]

1.Kazuo T. Suzuki*, Badal Kumar Mandal, Kazunori Anzai, et.al: Dimethylthioarscenicals as Arsenic Metabolites and Their Chemical Preparations, Chemical Research in Toxicology, 17, 914-921, 2004

［受託研究費］

［新規高精度遺伝子発現プロフィール（HiCEP）法の開発］

1.Koji Kadota, Ryuutarou Fukumura, Joseph John Rodrigue, Ryoko Araki, Masumi Abe: A normalization strategy applied to HiCEP (an AFLP-based expression profiling) analysis: toward the strict alignment of valid fragments across electrophoretic patterns., BMC Bioinformatics (online only URL:http://www.biomedcentral.com/bmcbioinformatics), 6(1), 43-57, 2005

2.Koji Kadota, Joseph John Rodrigue, Toshiyuki Saito, Ryoko Araki, Masumi Abe: An assessment of gene expression similarity among tissues using oligonucleotide microarray data, Journal of Genome Science and Technology, 3, 1-7, 2004

[低線量域放射線に特有な生体反応の多面的解析]

1.Tatsushi Toyooka*, Yuko Ibuki*, Manabu Koike, Sentaro Takahashi, Rensuke Goto*, et.al: Coexposure to benzo[a]pyrene plus UVA induced DNA double strand breaks: visualization of Ku assembly in the nucleus having DNA lesions, Biochemical and Biophysical Research Communications, 322, 631-636, 2004

[放射性核種生物圏移行パラメータ調査]

1.Keiko Tagami, Shigeo Uchida: Comparison of transfer and distribution of technetium and rhenium in radish plants from nutrient solution, Applied Radiation and Isotopes, 61, 1203-1210, 2004

2.Nobuyoshi Ishii, Keiko Tagami, Shigeo Uchida: Physicochemical forms of technetium in surface water covering paddy and upland fields, Chemosphere, 57(8), 953-959, 2004

3.Yasuo Nakamaru, Keiko Tagami, Shigeo Uchida: Distribution coefficient of selenium in Japanese agricultural soils, Chemosphere, 58, 1347-1354, 2005

4.中丸　康夫、内田　滋夫：ダイズ根圏における Al の挙動に対する養分吸収の影響、日本土壌肥料学雑誌、76(1), 15-20, 2005

5.Nobuyoshi Ishii, Keiko Tagami, Shuichi Enomoto*, Shigeo Uchida: Influence of microorganisms on the behavior of technetium and other elements in paddy soil surface water, Journal of Environmental Radioactivity, 77, 369-380, 2004

［重点研究支援］

［生体計測用 ESR による無侵襲測定業務］

1.Shigeatsu Motoori*, Hideyuki Majima*, Masaaki Ebara*, Hirotoshi Katou, Futoshi Hirai, Shizuko Kakinuma, Chizuru Tsuruoka, Toshihiko Ozawa, Tetsuo Nagano*, Hirohiko Tsujii, Hiromitsu Saisho*: Overexpression of Mitochondorial Manganese Superoxide Dismutanse Protects against Radiation-induced Cell Death in the Human Hepatocellular Carcinoma Cell Line HLE. , Cancer Research, 61, 5382-5388, 2001

［重粒子共同利用研究］

［治療・診断］

[骨軟部悪性腫瘍重粒子線治療における C-11 methionine PET の有用性の研究]

1.Hong Zhang, Kyosan Yoshikawa, Katsumi Tamura, Kenji Sagou, Tian Mei*, Tetsuya Suhara, Susumu Kandatsu, Kazutoshi Suzuki, Shuji Tanada, Hirohiko Tsujii: Carbon -11-methionine positron emission tomography imaging of chordoma, Skeletal Radiology, 33(9), 524-530, 2004

[生物]

[メラノサイトの増殖･分化に対する重粒子線の影響]

1.Tomohisa Hirobe, Kiyomi Eguchi-Kasai, Masahiro Murakami: Effects of Carbon-Ion Radiation on the Postnatal Development of Mice and on the Yield of White Spots in the Mid-Ventrum and Tail Tips, Radiation Research, 162(5), 580-584, 2004

［物理・工学］

［Charge Removal Cross Sections and Depth-Dose Distributions of Different High Energy Ions in Tissue-Like Targets］

1.Marko Giacomelli, Nakahiro Yasuda, et.al: Projectilelike fragment emission angles in fragmentation reactions of light heavy ions in the energy region < 200 MeV/nucleon: Modeling and Simulations., Physical Review C, C69, 064601-064620, 2004

［Secondary electron spectra from collisions of fast heavy ions with water vapor］

1.Daisuke Ohsawa, Hidetaka Kawauchi*, Masataka Hirabayashi, Yuki Okada, Toshihiro Honma, Akio Higashi, Shigeru Amano*, Yoshinori Hashimoto, Fuminori Soga, Yukio Satou: An aparatus for measuring the energy and angular distribution of secondary electrons emitted from water vapor by fast heavy-ion impact, Nuclear Instruments & Methods in Physics Research Section B, 227, 431-449, 2005

［マルチトレーサー連続製造のためのオンライン分離システムの開発］

1.Ferenc Szelecsenyi, Zoltan Kovacs, Kazutoshi Suzuki, Kazuhiro Okada*, T.n.van Der Walt*, G.f Steyn*, S Mukherjee*: Production possibility of ^{61}Cu using proton induced nuclear reactions on zinc for PET studies, Journal of Radioanalytical and Nuclear Chemistry, 263(2), 539-546, 2005

[重イオン核反応による中性子生成量及び二重微分断面積の測定]

1.Lawrence Heilbronn*, Yoshiyuki Iwata, Hiroshi Iwase*: Off-line correction for excessive constant-fraction-discriminator walk in neutron time-of-flight experiments, Nuclear Instruments & Methods in Physics Research Section A, 522(3), 495-503, 2004

［重イオン生成中性子の物質内挙動と透過に関する研究］

1.Hiroshi Yashima*, Yoshitomo Uwamino*, Hiroshi Iwase*, Hiroshi Sugita*, Takashi Nakamura*, Sachiko Ito*, Akifumi Fukumura: Cross sections for the production of residual nuclides by high-energy heavy ions, Nuclear Instruments & Methods in Physics Research Section B, 226(3), 243-263, 2004

2.Hiroshi Yashima*, Yoshitomo Uwamino*, Hiroshi Sugita*, Sachiko Ito*, Takashi Nakamura*, Akifumi Fukumura: INDUCED RADIOACTIVITY IN CU TARGETS PRODUCED BY HIGH-ENERGY HEAVY IONS AND THE CORRESPONDING ESTIMATED PHOTON DOSE RATES, Radiation Protection Dosimetry, 112, 195-208, 2004

［独法以前］

［独法以前］

［ホールボディカウンタに関する研究］

1.Tetsuo Ishikawa: Measurement of the radionuclide ^{24}Na produced by neutron exposure to the body, Journal of Radioanalytical and Nuclear Chemistry, 261(1), 175-178, 2004

【平成17年度】

［プロジェクト研究］
［（１）放射線先進医療研究］
［高度画像診断技術の研究開発　イ）４次元ＣＴ装置の開発］

1.Shinichiro Mori, Masahiro Endo, Takayuki Obata, Kenya Murase, Susumu Kandatsu, Shuji Tanada: Clinical potentials of the prototype 256-detector row CT-scanner, Academic Radiology, 12(2), 148-154, 2005

2.Shinichiro Mori, Chisato Kondo, Naoki Suzuki, Masahiro Kusakabe, Masahiro Endo, et.al: Volumetric coronary angiography using the 256-detector row computed tomography scanner: Comparison in vivo and in vitro with porcine models, Acta Radiologica, 47(2), 186-191, 2006

3.Shinichiro Mori, Takayuki Obata, Nakajima Naoshi*, Nobutsune Ichihara4*, Masahiro Endo: Volumetric perfusion CT using prototype 256-detector row CT scanner: Preliminary study with healthy porcine model, American Journal of Neuroradiology, 26(10), 2536-2541, 2005

4.Shinichiro Mori, Takayuki Obata, Riwa Kishimoto, Hirotoshi Katou, Kenya Murase, Susumu Kandatsu, Shuji Tanada, Hirohiko Tsujii, Masahiro Endo: Clinical potentials for dynamic contrast-enhanced hepatic volumetric cine imaging with the prototype 256-MDCT scanner, American Journal of Roentgenology, 185, 253-256, 2005

5.Shinichiro Mori, Masahiro Endo, Kanae Nishizawa, Kenya Murase, Hideaki Fujiwara*, Shuji Tanada: Comparison of patient doses in 256-slice CT and 16-slice CT scanners, British Journal of Radiology, 79, 56-61, 2006

6.Nobusada Funabashi, Katsuya Yoshida, Hiroyuki Tadokoro, Koichi Nakagawa*, Kenichi Odaka, Takanori Tsunoo, Shinichiro Mori, Masahiro Endo, Shuji Tanada, Issei Komuro*: Cardiovascular circulation and hepatic perfusion of pigs in 4-dimensional films evaluated by 256-slice cone-beam computed tomography., Circulation Journal, 69, 585-589, 2005

7.Shinichiro Mori, Masayuki Baba, Tomoyasu Yashiro, Syuhei Komatu, Susumu Kandatsu, Masahiro Endo: Volumetric cine imaging for four-dimensional radiation therapy planning using the second model of the 256-detector row CT-scanner: Initial experience in lung cancer, European Journal of Radiology Extra, 57, 71-73, 2006

8.Nobusada Funabashi*, Katsuya Yoshida, Hiroyuki Tadokoro, Kenichi Odaka, Takanori Tsunoo, Shinichiro Mori, Masahiro Endo, Shuji Tanada, Issei Komuro*: Three dimensional segmented myocardial perfusion

images by selective intracoronary injection of contrast using 256-slice cone beam computed tomography, Heart, 91, 1349-1351, 2005

9.Nobusada Funabashi, Katsuya Yoshida*, Hiroyuki Tadokoro, Keiichi Nakagawa, Kenichi Odaka, Takanori Tsunoo, Shinichiro Mori, Masahiro Endo, Shuji Tanada, Issei Komuro*: Time series of volumetric measurement of porcine three dimensional segmented myocardial perfusion by selective contrast injection using 256 slice cone beam computed tomography, International Journal of Cardiology, 000, 2005

10. Shinichiro Mori, Chisato Kondo, Naoki Suzuki*, Hiroyo Yamashita, Masahiro Kusakabe, Masahiro Endo: Volumetric cine imaging for cardiovascular circulation using prototype 256-detector row CT-scanner (four-dimensional CT) - A preliminary study with a porcine model, Journal of Computer Assisted Tomography, 29(1), 26-30, 2005

11. Chisato Kondo, ShinichiroMori, Masahiro Endo, et.al: Real-time volumetric imaging of human heart without electrocardiographic gating by 256-detector row computed tomography: Initial experience, Journal of Computer Assisted Tomography, 29(5), 694-698, 2005

12. Shinichiro Mori, Masahiro Endo, Kanae Nishizawa, Takanori Tsunoo, Takahiko Aoyama*, Hideaki Fujiwara*, Kenya Murase: Enlarged longitudinal dose profiles in cone-beam CT and the need for modified dosimetry, Medical Physics, 32(4), 1061-1069, 2005

13. Shinichiro Mori, Masahiro Endo, Kanae Nishizawa, Mari Ohno, Hiroaki Miyazaki*, Kazuhiko Tsujita*, Yasuo Saito*: Prototype heel effect compensation filter for cone-beam CT, Physics in Medicine and Biology, 50, N359-N370, 2005

14. Yutaka Takahashi, Shinichiro Mori, Takashi Yamashita*, et.al: Preliminary study of the effect of original metal artifacts correction approach in computed tomography due to I-125 seeds on postimplant dosimetry in prostate permanent implant, Radiation Medicine, 24, 133-138, 2006

15. Shinichiro Mori, Ryosuke Kohno, Teiji Nishio, Hideyuki Mizuno, Hiroyo Yamashita, Hiroshi Asakura*, Masahiro Endo, et.al: Physical evaluation of multidetector-row computed tomography (MDCT) scan methods and conditions for improvement of carbon beam distribution, 61(12), 1609-1615, 2005

［高度画像診断技術の研究開発　ロ）次世代ＰＥＴ装置の開発］

1.Jung Yeom*, Hiroyuki Takahashi, Siritiprussamee Prasit*, Hideo Murayama, Masaharu Nakazawa*: Multichannel CMOS ASIC preamplifiers for avalanche photodiode and microstrip gas chamber readouts., IEEE Transactions on Nuclear Science, 53(1), 242-246, 2006

2.Naoko Inadama, Hideo Murayama, Taiga Yamaya, Keishi Kitamura, Takaji Yamashita*, Hideyuki Kawai, Tomoaki Tsuda, Masanobu Sato, Yusuke Ono, Manabu Hamamoto: Preliminary evaluation of four-layer BGO DOI-detector for PET., IEEE Transactions on Nuclear Science, 53(1), 30-34, 2006

3.Tomoaki Tsuda, Hideo Murayama, Keishi Kitamura, Naoko Inadama, Taiga Yamaya, Eiji Yoshida, Fumihiko Nishikido, Manabu Hamamoto, Hideyuki Kawai, Yusuke Ono: Performance evaluation of a subset of a four-layer LSO detector for a small animal DOI PET scanner: jPET-RD, IEEE Transactions on Nuclear Science, 53(1), 35-39, 2006

4.Fumihiko Nishikido, Tadayoshi Doke, Jun Kikuchi, Toshinori Mori*, Hideo Murayama, Tatsuro Ooshita*, Hidehiro Takahashi*: Performance of prototype liquid xenon scintillation detector system for time-of-flight type positron emission tomography with improved photomultipliers., Japanese Journal of Applied Physics, 44(7A), 5193-5198, 2005

5.山谷　泰賀、吉田　英治、佐藤　允信、津田　倫明、北村　圭司、萩原　直樹、小尾　高史、長谷川　智之、羽石　秀昭、稲玉　直子、澁谷　憲悟、森　慎一郎、遠藤　真広、棚田　修二、村山　秀雄: ＤＯＩＣ法を用いた１リングｊＰＥＴ-Ｄ４試作機のイメージング性能評価、Medical Imaging Technology、23(4)、185-193、2005

6.ChihFung Lam, Naoki Hagiwara, Takashi Obi, Masahiro Yamaguchi*, Hideaki Haneishi, Tomoaki Tsuda, Eiji Yoshida, Taiga Yamaya, Hideo Murayama: Investigaton of the effects of inter-crystal scatter reduction on reconstructed images in the jPET-D4 scanner., Medical Imaging Technology, 23(5), 318-327, 2005

7.Eiji Yoshida, Keishi Kitamura, Tomoaki Tsuda, Kengo Shibuya, Taiga Yamaya, Naoko Inadama, Tomoyuki Hasegawa, Hideo Murayama: Energy spectra analysis of the four-layer DOI detector for the brain PET scanner., Nuclear Instruments & Methods in Physics Research Section A, 557, 664-669, 2005

8.Taiga Yamaya, Naoki Hagiwara, Takashi Obi, Masahiro Yamaguchi*, Nagaaki Oyama*, Keishi Kitamura, Tomoyuki Hasegawa, Hideaki Haneishi, Naoko Inadama, Hideo Murayama: Transaxial syste models for jPET-D4 image reconstruction., Physics in Medicine and Biology, 50, 5339-5355, 2005

［重粒子線がん治療臨床試験］

1.長谷川　安都佐、溝江　純悦、宮地　斉*: 三叉神経誘発電位、Clinical Neuroscience : 月刊臨床神経科学、23(9)、1002-1003、2005

2.Aki Hirai*, Atsushi Mizota*, Seiichiro Mine*, Junetsu Mizoe: Two cases of orbital adenocarcinoma treated with heavy charged carbon particle irradiation, Graefe's Archive for Clinical and Experimental Ophthalmology, 243, 610-614, 2005

3.Yoshiyuki Suzuki*, Takashi Nakano*, Tatsuya Ohno, Shingo Kato, Yuzuru Niibe*, Shinroku Morita, Hirohiko Tsujii: Oxygenated and reoxygenated tumors show better local control in radiation therapy for cervical cancer., International Journal of Gynecological Cancer, 16(1), 306-311, 2006

4.Hitoshi Shibuya*, Hirohiko Tsujii: THE STRUCTURAL CHARACTERISTICS OF RADIATION ONCOLOGY IN JAPAN IN 2003, International Journal of Radiation Oncology Biology Physics, 62(5), 1472-1476, 2005

5.Hiroshi Tsuji, Takeshi Yanagi, Hitoshi Ishikawa, Tadashi Kamada, Junetsu Mizoe, Tatsuaki Kanai, Shinroku Morita, Hirohiko Tsujii: Hypofractionated radiotherapy with carbon ion beams for prostate cancer, International Journal of Radiation Oncology Biology Physics, 63(4), 1153-1160, 2005

6.Azusa Hasegawa, Junetsu Mizoe, Atsushi Mizota, Hirohiko Tsujii: Outcomes of visual acuity in carbon ion radiotherapy:analysis of dose-volume histograms and prognostic factors, International Journal of Radiation Oncology Biology Physics, 64(2), 396-401, 2006

7.Hiroko Koyama-Ito, Masahiro Endo, Akira Ito*, Junetsu Mizoe, Hirohiko Tsujii: DESIGN AND IMPLEMENTATION OF A RADIOTHERAPY DATABASE IN CARBON ION THERAPY, Journal of the Japanese Society for Therapeutic Radiology and Oncology, 17(3), 161-168, 2005

8.Riwa Kishimoto, Junetsu Mizoe, Syuhei Komatu, Susumu Kandatsu, Takayuki Obata, Hirohiko Tsujii: MR Imaging of Brain Injury Induced by Carbon Ion Radiotherapy for Head and Neck Tumors, Magnetic Resonance in Medical Sciences, 4(4), 159-164, 2005

9.Tadaaki Miyamoto, Sachiko Ishii, Kiyomi Eguchi-Kasai, Kumiko Saegusa: Radiosensitivity of hypoxic and proliferating clonogen in a human lung cancer grown in nude mice, Oncology Reports, 14, 1421-1428, 2005

［（２）放射線感受性遺伝子研究］

［放射線感受性遺伝子研究］

1.Atsushi Tsuji, Hitomi Sudou, Aya Sugyou, Marika Ohtuki, Makoto Miyagishi*, Kazunari Taira*, Takashi Imai, Yoshinobu Harada: A Fast, Simple Method for Screening Radiation Susceptibility Genes by RNA Interference, Biochemical and Biophysical Research Communications, 333, 1370-1377, 2005

2.Tatiana V. Kondrashova*, Kazuo Neriishi*, Sadayuki Ban, Tatiana I. Ivanova*, Lyudmila I. Krikunova*, Nataliya I. Shentereva*, Iya A. Smirnova*, Irina A. Zharikova*, Marina V. Konova*, Senjun Taira*, Anatoly F. Tsyb*: Frequency of hemochromatosis gene (HFE) mutations in Russian healthy women and patients with estrogen-dependent cancers, Biochimica et Biophysica Acta. Molecular Basis of Disease, 1762(1), 59-65, 2005

3.Mayumi Iwakawa, Shuhei Noda, Shigeru Yamada, Naohito Yamamoto, Yukimasa Miyazawa*, Hideya Yamazaki, Yoshihiro Kawakami, Yoshifumi Matsui, Hirohiko Tsujii, Junetsu Mizoe, Eisei Oda, Fukunaga Yukihiro*, Takashi Imai: Analysis of Non-genetic Risk Factors for Adverse Skin Reactions to Radiotherapy among 284 Breast Cancer Patients, Breast Cancer, 13(3), 300-307, 2006

4.Shuhei Noda, Mayumi Iwakawa, Toshie Oota, Masaru Iwata, Minfu Yang*, Miyako Gotou, Hiroko Tanaka, Yoshinobu Harada, Takashi Imai: Inter-strain variance in late phase of erythematous reaction or leg contracture after local irradiation among three strains of mice, Cancer Detection and Prevention, 29(4), 376-382, 2005

5.Takeshi Watanabe*, Mikio Suzuki*, Yamasaki Yuki*, Shiro Okuno*, Harutsugu Hishigaki*, Toshihide Ono*, Keiko Oga*, Mizoguchi Ayako*, Atsushi Tsuji, Naohide Kanemoto*, Shigeyuki Wakitani*, Toshihisa Takagi*, Yusuke Nakamura*, Akira Tanigami*: Mutated G-protein-coupled receptor GPR10 is responsible for the hyperphagia/dyslipidaemia/obesity locus of Dmo1 in the OLETF rat., Clinical and Experimental Pharmacology and Physiology, 32(5-6), 355-366, 2005

6.Mayumi Iwakawa, Nobuhiko Takai, Miyako Gotou, Shuhei Noda, Koichi Ando, Takashi Imai: Strain-dependent differences in locomotor activity after local brain irradiation with 30 GyE of carbon ions, Experimental Animals, 54(5), 447-450, 2005

7.Mayumi Iwakawa, Miyako Gotou, Shuhei Noda, Masashi Sagara, Shigeru Yamada, Naohito Yamamoto, Yoshihiro Kawakami, Yoshifumi Matsui, Yukimasa Miyazawa, Hideya Yamazaki, Hiroshi Tsuji, Tatsuya Ohno, Junetsu Mizoe, Hirohiko Tsujii, Takashi Imai: DNA repair capacity measured by high throughput alkaline comet assays in EBV-transformed cell lines and peripheral blood cells from cancer patients and healthy volunteers, Genetic Toxicology and Environmental Mutagenesis : A Section of Mutation Research, 588, 1-6, 2005

8.Atsushi Tsuji, Aya Sugyou, Toshiaki Ogiu, Masashi Sagara, Tomo Suga, Atsuko Ishikawa, Hitomi Sudou, Marika Ohtuki, Hiroyuki Aburatani*, Takashi Imai, Yoshinobu Harada: Fine Mapping of Radiation Susceptibility and Gene Expression Analysis of LEC Congenic Rat Lines, Genomics, 86, 271-279, 2005

9.Atsushi Tsuji, Aya Sugyo, Hitomi Sudou, Masashi Sagara, Atsuko Ishikawa, Marika Ohtuki, Tomo Kimura, Toshiaki Ogiu, Makoto Miyagishi*, Kazunari Taira*, Takashi Imai, Yoshinobu Harada: Defective repair of radiation-induced DNA damage is complemented by a CHORI-230-65K18 BAC clone on rat chromosome 4, Genomics, 87(2), 236-242, 2006

10. Sadayuki Ban, Yuichi Michikawa, Ken-ichi Ishikawa, Masashi Sagara, Koji Watanabe*, Yutaka Shimada*, Jouji Inazawa*, Takashi Imai: Radiation sensitivities of 31 human oesophageal squamous cell carcinoma cell lines, International Journal of Experimental Pathology, 86, 231-240, 2005

11. Catharine West*, Michael McKay*, Tobias Holscher*, Michael Baumann*, Ian Stratford*, Robert Bristow*, Mayumi Iwakawa, Takashi Imai, Surekha Zingde*, Mitchell Anscher*, Jean Bourhis*, Adrian Begg*, Karin Haustermans*, Soeren Bentzen*, Jolyon Hendry*: Molecular markers predicting radiotherapy response: Report and recommendations from an International Atomic Energy Agency technical meeting., International Journal of Radiation Oncology Biology Physics, 62(5), 1264-1273, 2005

12. Kenichi Ishikawa, Kumiko Saegusa, Yoshimi Ootsuka, Atsuko Ishikawa, Seiko Kawai, Kaori Yasuda, Tomo Suga, Yuichi Michikawa, Masao Suzuki, Mayumi Iwakawa, Takashi Imai: Gene expression profile changes correlating with radioresistance in human cell lines, International Journal of Radiation Oncology Biology Physics, 65(1), 234-245, 2006

13. Sadayuki Ban, Ken-ichi Ishikawa, Seiko Kawai, Kumiko Saegusa, Atsuko Ishikawa, Yutaka Shimada*, Jouji Inazawa*, Takashi Imai: Potential in a single cancer cell to produce heterogeneous morphology, radiosensitivity and gene expression, Journal of Radiation Research, 46(1), 43-50, 2005

14. Toshiji Shitara*, Yoshiaki Tsuchida*, Junko Hirato*, Akira Shimada*, Hideaki Murai*, Norio Suzuki*, Minoru Kuroiwa*, Mayumi Iwakawa: Pulmonary metastases after nephrectomy only for small, stage I/favorable-histology Wilms' tumor, Pediatric Surgery International, 21(6), 470-473, 2005

[（３）放射線人体影響研究]
[宇宙放射線による生体影響と防護に関する研究]

1.Takeshi Yaoi*, Kumie Nojima, Shinji Fushiki*, et.al: Prenatal Low-dose X-irradiation Affects Connexins 43 and 26 in Developing Mouse Neocortex, Acta Histochemica et Cytochemica, 38(3), 223-228, 2005

2.長沼　毅*、保田　浩志、その他: 隕石・彗星内ハビタブルゾーン（パンスペルミアの方舟）、宇宙生物科学、19、8-24、2005

3.Kiichi Nonaka*, Satoshi Fukuda, Kazuhiro Aoki*, Takashi Yoshida*, Keiichi Ohya*: Regional distinctions in cortical bone mineral density measured by pQCT can predict alterations in material property at the tibial diaphysis of the cynomolgus monkey, Bone, 38(2), 265-272, 2006

4.Chang Qing Piao*, Li Liu*, Yong L. Zhao*, Adayabalam S. Balajee*, Masao Suzuki, Tom K Hei*: Immortalization of human small airway epithelial cells by ectopic expression of telomerase, Carcinogenesis, 26(4), 725-731, 2005

5.沖本　宜音、竹下　哲史*、濱竹　芳久*、野島　久美恵、荒西　太士: 重粒子線照射による抗酸化多糖類を豊富に含む海藻類の作出、FOOD FUNCTION、1、48-51、2005

6.Masao Suzuki, Chizuru Tsuruoka, Tatsuaki Kanai, Takeshi Kato*, Fumio Yatagai*, Masami Watanabe*: Cellular and molecular effects for mutation induction in normal human cells irradiated with accelerated neon ions., Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 594, 86-92, 2006

7.Michiko Takami, Hiroshi Yasuda: ESR Property of a Photochromic Titanium Oxide Gel, Health Physics, 40(4), 385-387, 2005

8.Takeshi Takashima*, Yukio Uchihori, Hisashi Kitamura, et.al: Double-side silicon strip detector (DSSD) with VA32TA applied for medium energy particle detector in high-count rate environment, IEEE Transactions on Nuclear Science, 51(5), 2004-2007, 2004

9.安田　仲宏、内堀　幸夫、北村　尚、藤高　和信: 国際宇宙放射線モニタ比較実験と新しい固体飛跡検出法の開発、放射線、31(2)、119-128、2005

10. Kazuhiro Terasawa*, Tadayoshi Doke*, Tetsuhito Fuse*, Hisashi Kitamura, Yukio Uchihori, et.al: The Response of the silicon-based Linear Energy Transfer Spectrometer (RRMD-III) to Protons from 1 to 70 MeV, Japanese Journal of Applied Physics, 44(10), 7608-7613, 2005

11. Yoshinobu Hagihara*, Satoshi Fukuda, Sumio Goto*, Haruzo Iida, Masashi Yamazaki*, Hideshige Moriya*: How many days per week should rats undergo running exercise to increase BMD?, Journal of Bone and Mineral Metabolism, 23(4), 289-294, 2005

12. Kouichi Nakashima*, Michiko Takami, Masatoshi Ohta*, Tamotsu Yasue*, Jun Yamauchi*: Thermoluminescence mechanism of dysprosium-doped B-tricalcium phosphate phosphor, Journal of Luminescence, 111, 113-120, 2005

13. Hiroshi Yamaguchi, Yukio Uchihori, Nakahiro Yasuda, Masashi Takada, Hisashi Kitamura: Estimation of Yields of OH Radicals in Water Irradiated by Ionizing Radiation, Journal of Radiation Research, 46(3), 333-341, 2005

14.佐藤　淳*、佐藤　れえ子*、福田　俊、夏堀　雅宏*、山田　裕一*、小林　沙織*、安田　準*、内藤　善久*: 猫の大腿骨 X 線写真を用いた Microdensitometry 法の臨床応用、日本獣医師会雑誌、58(7)、475-479、2005

15.高田　真志、三原　恵里香*、中村　尚司、藤高　和信、その他: Neutron irradiation field produced by 25 MeV deuterons bombarding on thick beryllium target for radiobiological study、545、765-775、2005

16. Tomoya Yamauchi, Nakahiro Yasuda, Taku Asuka, Kentarou Izumi, Takashi Masutani, Keiji Oda, Remi Barillon: Track core size estimation for heavy ions in CR-39 by AFM and UV methods., Nuclear Instruments & Methods in Physics Research Section B, 236, 318-322, 2005

17. Syoji Torii*, Tadahisa Tamura*, Yukio Uchihori, Hisashi Kitamura, et.al: The CALET, CALorimetric Electron Telescope, on ISS/JEM, Nuclear Physics B - Proceedings Supplements, 134, 23-30, 2004

18. Atsuko Shimada*, Akihiro Shima*, Kumie Nojima, You Seino*, et.al: Germ cell mutagenesis in medaka fish after ecposures to high-energy cosmic ray nuclei:A human nodel, Proceedings of the National Academy of Sciences of the United States of America, 102(17), 6063-6067, 2005

19. Nakahiro Yasuda, Kayoko Namiki, Eric Benton*, Yoshihiro Honma*, Hitoshi Ishii*, Yousuke Umeshima*, et.al: Development of a high speed imaging microscope and new software for nuclear track detector analysis., Radiation Measurements, 40, 311-315, 2005

20. Masashi Takada, Mamoru Baba*, Hiroshi Yamaguchi, Kazunobu Fujitaka: Differential absorbed dose distributions in lineal energy for neutrons and gamma rays at the mono-energetic neutron calibration facility, Radiation Protection Dosimetry, 114(4), 481-490, 2005

21. Masao Suzuki, Chizuru Tsuruoka, Yukio Uchihori, Satoru Ebisawa, Hiroshi Yasuda, Kazunobu Fujitaka: Reduction in life span of normal human fibroblasts exposed to very low-dose-rate charged particles, Radiation Research, 164, 505-508, 2005

22. Tetsuya Kawata, Hisao Ito, Masayoshi Saitou, Takashi Uno*, Ryuichi Okayasu, et.al: Caffeine sensitizes non-dividing human fibroblasts to X-rays by inducing high frequency of misrepair, Radiation Research, 164, 509-513, 2005

［低線量放射線の生体影響に関する総合的研究］

1.Akiko Hayashi, Toshiyuki Saito, Y Mukai*, Siro Kurita*, Tadaaki Hori: Genetic variations in Lycoris radiata var. radiata in Japan., Genes and Genetic Systems, 80, 199-212, 2005

2.Yutaka Tokairin*, Shizuko Kakinuma, Masami Arai*, Mayumi Nishimura, Mieko Okamoto*, Makoto Akashi, Yoshio Miki*, Tatsuyuki Kawano*, Yoshiya Shimada: Accelerated growth of intestinal tumours after radiation exposure in Mlh1-knockout mice: evaluation of the late effect of radiation on a mouse model of HNPCC, International Journal of Experimental Pathology, 87, 89-99, 2006

3.Hiroshi Tanooka: Bacterial spores as time capsules for cloned genes, Proceedings of the Japan Academy. Ser. B, 79, 290-291, 2003

4.Tatsuhiko Imaoka, Mieko Okamoto*, Mayumi Nishimura, Yukiko Nishimura, Masami Ootawara, Shizuko Kakinuma, Yutaka Tokairin, Yoshiya Shimada: Mammary tumorigenesis in ApcMin/+ mice is enhanced by X irradiation with a characteristic age dependence, Radiation Research, 165, 165-173, 2006

5. Tatsuya Ohno, Shizuko Kakinuma, Shingo Kato, Hirohiko Tsujii, Yoshiya Shimada: Risk of second cancers after radiotherapy for cervical cancer, Expert Review of Anticancer Therapy, 6(1), 49-57, 2006

6. Wu, J., Morimyo, M., Hongo, E., Higashi, T., Okamoto, M., Kawano, A., and Ohmachi, Y. Radiation-induced germline mutations detected by a directcomparison of parents and first-generation offspring DNA sequences containing SNPs. Mutat. Res., 596, 1-11, 2006.

7. Sugaya, K., Hongo, E., and Tsuji, H. A temperature-sensitive mutation in the WD repeat-containing protein Smu1 is related to maintenance of chromosome integrity. Exp. Cell Res., 306, 242-251, 2005.
8. Nakajima, T., Yukawa, O., Tsuji, H., Ohyama, H., Wang, B., Tatsumi, K., Hayata, I., and Hama-Inaba, H., Regulation of radiation-induced protein kinase Cδactivation in radiation-induced apoptosis differs between radiosensitive and radioresistant mouse thymic lymphoma cell lines. Mutat. Res., 595, 29-36, 2006.
9. Yamaguchi, S., Hasegawa, M., Aizawa, S., Tanaka, K., Yoshida, K., Noda, Y., Tatsumi, K., Hirokawa, K., and Kitagawa, M. DNA-dependent protein kinase enhances DNA damage-induced apoptosis in association with Friend gp70. Leuk. Res., 29, 307-316, 2005.
10. Ina, Y. Tanooka. H., Yamada, T., and Sakai. K. Suppression of thymic lymphoma induction by life-long low-dose rate irradiation accompanied by immune activation in C57BL/6 mice. Radiat. Res., 163, 153-158,2005.
11. Naoko Shiomi, Masahiko Mori, Seiji Kito, Yoshinobu Harada, Kiyoji Tanaka,, Tadahiro Shiomi: Severe growth retardation and short life span of double-mutant mice lacking Xpa and exon 15 of Xpg, DNA Repair, 4, 351-357, 2005.
12. Takeshi Yasuda, Kaoru Sugasawa, Yuichiro Simizu, Sigenori Iwai, Tadahiro Shiomi, Fumio Hanaoka: Nucleosomal structure of undamaged DNA regions suppresses the non-specific DNA binding of the XPC complex, DNA Repair, 4, 389-395, 2005.
13. Atsushi Tsuji, Aya Sugyou, Toshiaki Ogiu, Masashi Sagara, Tomo Suga, Atsuko Ishikawa, Hitomi Sudou, Marika Ohtuki, Hiroyuki Aburatani*, Takashi Imai, Yoshinobu Harada: Fine Mapping of Radiation Susceptibility and Gene Expression Analysis of LEC Congenic Rat Lines, Genomics, 86, 271-279, 2005
14. Atsushi Tsuji, Aya Sugyo, Hitomi Sudou, Masashi Sagara, Atsuko Ishikawa, Marika Ohtuki, Tomo Kimura, Toshiaki Ogiu, Makoto Miyagishi*, Kazunari Taira*, Takashi Imai, Yoshinobu Harada: Defective repair of radiation-induced DNA damage is complemented by a CHORI-230-65K18 BAC clone on rat chromosome 4, Genomics, 87(2), 236-242, 2006

［（４）放射線障害研究］

［緊急被ばく医療に関する研究］

1.Kunio Shiraishi, Susumu Ko, Kyoko Ayama: ESR response of human nails irradiated by gamma-rays, Advances in ESR Applications, 22, 3-5, 2005

2.Chi Cuiping, Toshihiko Ozawa, Kazunori Anzai: In vivo nitric oxide production and iNOS expression in X-ray irradiated mouse skin, Biological and Pharmaceutical Bulletin , 29(2), 348-353, 2006

3.Satoshi Fukuda: Chelating Agents Used for Plutonium and Uranium Removal in Radiation Emergency Medicine, Current Medicinal Chemistry, 12(23), 2765-2770, 2005

4.Satoshi Fukuda, Haruzo Iida, Mizuyo Ikeda, Xueming Yan*, Yuyuan Xie*: Toxicity of uranium and the removal effects of CBMIDA and EHBP in simulated wounds of rats., Health Physics, 89(1), 81-88, 2005

5.Saori Kawamura, Daisaku Takai, Keiko Watanabe, Makoto Akashi, et.al: Role of Mitochondrial DNA in Cells Exposed to Irradiation : Generation of Reactive Oxygen Species (ROS) is Required for G2 Checkpoint upon Irradiation, Journal of Health Science (Tokyo, Japan), 51(3), 385-393, 2005

6.Takuya Iyoda*, Kisaburo Nagata, Makoto Akashi, Yoshiro Kobayashi*: Neutrophils accelerate macrophage-mediated digestion of apoptotic cells in vivo as well as in vitro., Journal of Immunology, 175(6), 3475-3483, 2005

7.Satoshi Fukuda, Mizuyo Ikeda, Momoko Chiba*, Kazunari Kaneko*: Clinical diagostic indicators of renal and bone damage in rats intramuscularly injected with depleted uranium, Radiation Protection Dosimetry, 118(3), 307-314, 2006

［基礎的・萌芽的研究］

［理事長調整費による研究課題］

［ダイレクトヒットとグランシングヒットによる生物効果（マイクロビーム照射装置の改善）］

1.Parinaz Mehnati*, ShigekM Morimoto*, Fumio Yatagai*, Yoshiya Furusawa, Yasuhiko Kobayashi*, Seiichi Wada*, Tatsuaki Kanai, Fumio Hanaoka*, Hiroshi Sasaki*: Exploration of 'Over Kill Effect' of High-LET Ar- and Fe-ions by Evaluating the Fraction of Non-hit Cell and Interphase Death, Journal of Radiation Research, 46(3), 343-350, 2005

［固体飛跡検出器を用いた大線量中性子計測法の確立と高エネルギー中性子線量計測法の検討］

1.Kuniaki Amemiya*, Hiroyuki Takahashi*, Masaharu Nakazawa*, Yoshinobu Nakagawa*, Toshikazu Majima*, Toru Kobayashi*, Teruaki Konishi*, Kotaro Hieda*, Nakahiro Yasuda, Kouichi Ogura*, et.al: HIgh-resolution nuclear track mapping in detailed cellular histology using CR-39 with the contact microscopy technique, Radiation Measurements, 40, 283-288, 2005

［基盤研究］

［（１）環境系基盤研究］

［ラドンの環境中における動態と生物影響に関する研究］

1.Tetsuo Ishikawa: Performance of a whole-body counter with five high-purity germanium detectors, Applied Radiation and Isotopes, 64(3), 386-389, 2006

2.Fumihiro Saito, Shinya Furuichi*, Naureen Rahman, Takao Iida*, Jyunn Koarashi: A new method for measuring particle size distribution of radon decay products using imaging plate, Japanese Journal of Health Physics, 40(2), 177-182, 2005

3.Shinji Tokonami, Yuu Ishimori, Tetsuo Ishikawa, Keizo Yamasaki, Yuji Yamada: Intercomparison Exercise of Measurement Techniques for Radon, Radon Decay Products and Their Particle Size Distributions at NIRS, Japanese Journal of Health Physics, 40(2), 183-190, 2005

4.Jing Chen*, Shinji Yoshinaga, Shinji Tokonami, Hidenori Yonehara, Yuji Yamada: Japanese individual risks of radon induced lung cancer for different exposure profiles, Japanese Journal of Health Physics, 40(3), 285-294, 2005

5.一坪　宏和、山田　裕司、小泉　彰、下　道國*: 放医研ラドン実験棟における排気汚染モニタリング、日本放射線安全管理学会誌、4(1)、62-70、2005

6.古川　雅英、赤田　尚史*、卓　維海、郭　秋菊*、楢崎　幸範*、床次　眞司: 自然放射能からみた東アジアにおけるレスと風成塵起源土壌の特徴、エアロゾル研究、20(4)、306-312、2005

7.M. Sugino*, S. Tokonami, W. Zhuo*: Radon and thoron concentrations in offices and dwellings of the Gunma prefecture, Japan, Journal of Radioanalytical and Nuclear Chemistry, 266(2), 205-209, 2005

8.Y. Kobayashi, S.Tokonami, Y.Narazaki*, W.Zhuo, M. Furukawa: Enhanced indoor radon concentration by using radon-rich well water in a Japanese wooden house in Fukuoka,Japan, Journal of Radioanalytical and Nuclear Chemistry, 266(3), 389-396, 2005

9.Tetsuo Ishikawa, Shinji Tokonami, Shinji Yoshinaga, Yukinori Narazaki*: Airborne and waterborne radon concentrations in areas with use of groundwater supplies, Journal of Radioanalytical and Nuclear Chemistry, 267(1), 85-88, 2006

10.C, Nemeth, S, Tokonami, T, Ishikawa, H, Takahashi*, W, Zhuo, M, Shimo*: Measurements of radon , thoron and their progeny in Gifu prefecture, Japan, Journal of Radioanalytical and Nuclear Chemistry, 267(1), 9-12, 2006

11. Yuji Yamada, Quanfu Sun*, Shinji Tokonami, Suminori Akiba*, Weihai Zhuo, Shouzhi Zhang*, Tetsuo Ishikawa, Masahide Furukawa, Kumiko Fukutsu, Hidenori Yonehara: Radon-thoron discriminative measurements in Gansu province, China, and its implication for dose estimates, Journal of Toxicology and Environmental Health. Part A, 69, 723-734, 2006

12. Yuji Yamada, Akira Koizumi, Koji Ishikawa, Yukio Hishinuma*, Katuyoshi Tatenuma*: Development of a radon trap device using a corona discharge, Radiation Protection Dosimetry, 117(4), 414-418, 2006

13.古川　雅英、赤田　尚史*、床次　眞司: 大東諸島の自然放射線レベルとその地質学的解釈、Radioisotopes、54(7)、213-224、2005

14. Shinji Tokonami, Hiroyuki Takahashi*, Yosuke Kobayashi, Weihai Zhuo: Up-to-date radon-thoron discriminative detector for a large scale survey, Review of Scientific Instruments, 76(1), 3505-3509, 2005

15. Yuji Yamada, Shinji Tokonami, Keizo Yamasaki: Applicability of the electrical low pressure impactor to size determination of aerosols attached to radon decay products, Review of Scientific Instruments, 76(6), 065102-1-065102-4, 2005

［環境放射線防護体系構築のための研究］

1.Kunio Shiraishi, Susumu Ko, Sahoo Sarata Kumar, Hideki Arae*, Kyoko Ayama, P.V. Zamostyan*, Nikolay.Y. Tsigankov*, I.P. Los*, V.N. Korzun*: Dietary mineral intakes for Ukrainian subjects living areas contaminated by the Chernobyl accident, Biomedical Research on Trace Elements, 16(4), 306-310, 2005

2.Susumu Ko, Kunio Shiraishi, Sahoo Sarata Kumar, Hideki Arae*, Kyoko Ayama, I.P. Los*, V.N. Korzun*, Nikolay.Y. Tsigankov*, P.V. Zamostyan*: Dietary intakes of Sr, Cs, Th-232 and U-238 in north Ukraine, polluted by the Chernobyl accident, Biomedical Research on Trace Elements, 16(4), 311-314, 2005

3.Zhong-Liang Wang, Masatoshi Yamada: Plutonium activities and 240Pu/239Pu atom ratios in sediment cores from the East China Sea and Okinawa Trough: Sources and inventories, Earth and Planetary Science Letters, 233(3-4), 441-453, 2005

4.Kunio Shiraishi, Susumu Ko, Sarata K. Sahoo, Yasuyuki Muramatsu*, I.P. Los*, V.N. Korzun*, Nikolay.Y. Tsigankov*, P.V. Zamostyan*: Dietary iodine intake in residents of northwestern regions of Ukraine contaminated by the Chernobyl accident, Health Physics, 90(1), 11-15, 2006

5.Shino Homma-Takeda, Yoshikazu Nishimura, Yoshito Watanabe, Masae Yukawa, Shunji Ueno*: Lobe-specific changes in zinc levels in the prostate of rats exposed to tributyltin chloride, International Journal of PIXE, 15(3/4), 131-138, 2005

6.Masae Yukawa, Hiroyuki Iso*, Kumiko Kodama, Hitoshi Imaseki, Kazuko Aoki, Yuuji Ishikawa: Metal Balance Shift Induced in Small Fresh Water Fish by Several Environmental Stresses, International Journal of PIXE, 15(3/4), 203-210, 2005

7.Jian Zheng, Masatoshi Yamada: Investigating Pu and U isotopic compositions in sediments: a case study in Lake Obuchi, Rokkasho Village, Japan using sector-field ICP-MS and ICP-QMS, Journal of Environmental Monitoring, 7(8), 792-797, 2005

8.Kunio Shiraishi: Dietary intakes of eighteen elements and K-40 in eighteen food categories by Japanese subjects, Journal of Radioanalytical and Nuclear Chemistry, 266(1), 61-69, 2005

9.Noriyuki Momoshima*, M Sayad*, Masatoshi Yamada, M Takamura*, H. Kawamura*: Global fallout levels of ^{99}Tc and activity ratio of ^{99}Tc/^{137}Cs in the Pacific Ocean, Journal of Radioanalytical and Nuclear Chemistry, 266(3), 455-460, 2005

10. Jian Zheng, Masatoshi Yamada: Determination of Pu isotopes in sediment cores in the Sea of Okhotsk and the NW Pacific by sector field ICP-MS, Journal of Radioanalytical and Nuclear Chemistry, 267(1), 73-83, 2006

11. Shino Homma-Takeda, Yoshikazu Nishimura, Yasuko Terada*, Shunji Ueno*, Yoshito Watanabe, Masae Yukawa: Tin accumulation in spermatozoa of the rats exposed to tributyltin chloride by synchrotoron radiation X-ray fluorescence (SR-XRF) analysis with microprobe, Nuclear Instruments & Methods in Physics Research Section B, 231, 333-337, 2005

12. Neelam Ramaiah*, Shigenobu Takeda*, Ken Furuya*, Takeshi Yoshimura*, Jun Nishioka*, Tatsuo Aono, Yukihiro Nojiri*, Keiri Imai*, Isao Kudo*, Hiroaki Saito*, Atsushi Tsuda*: Effect of iron enrichment on the dynamics of transparent exopolymer particles in the western subarctic Pacific, Progress in Oceanography, 64(2-4), 253-261, 2005

13. Tatsuo Aono, Masatoshi Yamada, Isao Kudo*, Keiri Imai*, Yukihiro Nojiri*, Atsushi Tsuda*: Export fluxes of particulate organic carbon estimated from 234Th/238U disequilibrium during the Subarctic Pacific Iron Experiment for Ecosystem Dynamics Study (SEEDS 2001), Progress in Oceanography, 64(2-4), 263-282, 2005

14. Jian Zheng, Masatoshi Yamada: Determination of U isotope ratios in sediments using ICP-QMS after sample cleanup with anion-exchange and extraction chromatography, Talanta, 68, 932-939, 2006

［放射線等の環境リスク源による人・生態系への比較影響研究］

1.Akira Fujimori, Ryuichi Okayasu, Hiroshi Ishihara, Satoshi Yoshida, Kiyomi Eguchi-Kasai, Kumie Nojima, Satoru Ebisawa, Sentaro Takahashi: Extremely Low Dose Ionizing Radiation Up-regulates CXC Chemokines in Normal Human Fibroblasts, Cancer Research, 65(22), 10159-10163, 2005

2.Yoshikazu Inoue, Kiriko Miyamoto, Shoichi Fuma, Hiroshi Takeda: Unique Features of a Pine Tree for Monitoring and Modeling of Environmental Tritium, Fusion Science and Technology, 48(1), 508-511, 2005

3.Kazuhide Yamamoto*, Tetsuya Sakashita*, Kiriko Miyamoto: Development and Validation of an Atmospheric Dispersion Model for Tritium Using the IAEA BIOMASS Scenario, Fusion Science and Technology, 48, 500-503, 2005

4.Galeriu Dan*,Hiroshi Takeda, Melintescu Anca*: Energy metabolism and human dosimetry of tritium,48,795-798,2005

5.Yoshihisa Kubota, Sentaro Takahashi, Hiroshi Sato, Katsutoshi Suetomi: Radiation-induced apoptosis in peritoneal resident macrophages of C3H mice: selective involvement of superoxide anion, but not other reactive oxygen species, International Journal of Radiation Biology, 81(6), 459-472, 2005

6.Tadaaki Ban-nai, Satoshi Yoshida, Yasuyuki Muramatsu, Akira Suzuki*: Uptake of Radiocesium by Hypha of Basidiomycetes - Radiotracer Experiments -, Journal of Nuclear and Radiochemical Sciences, 6(1), 111-113, 2005

7.Keiko Tagami, Shigeo Uchida*: Soil-to-plant transfer factors of technetium-99 for various plants collected in the Chernobyl area, Journal of Nuclear and Radiochemical Sciences, 6(3), 261-264, 2005

8.Seigo Amachi*, Yasuyuki Muramatsu*, Yukako Akiyama, Kazumi Miyazaki*, Sayaka Yoshiki*, Satoshi Hanada*, Yoichi Kamagata*, Tadaaki Ban-nai, Hirofumi Shinoyama*, Takaaki Fujii*: Isolation of iodide-oxidizing bacteria from iodide-rich natural gas brines and seawaters, Microbial Ecology, 49(4), 547-557, 2005

9.柳澤　啓、武田　洋、宮本　霧子、府馬　正一、石井　伸昌: 銅の負荷が培地からミジンコへの炭素吸収に及ぼす影響、Radioisotopes、54(07)、225-228、2005

10. Satoshi Yoshida, Yasuyuki Muramatsu, Wilhelmus Peijnenburg*: Multi-element analyses of earthworms for radioecology and ecotoxicology, Radioprotection, 40(Suppl. 1), 491-495, 2005

11. Masahiro Doi, et.al: Model ecosystem approach to estimate community level effects of radiation, Radioprotection, 40(Suppl.1), 913-919, 2005

[（２）生物系基盤研究]
[放射線に対するレドックス制御に関する研究]

1.Satoshi Kubo*, Hiroyuki Fukuda*, Masaaki Ebara*, Nobuo Ikota, Hiromitsu Saisho*, Hidehiko Nakagawa, Toshihiko Ozawa, Masae Yukawa, Kazuki Kato*, Tsunenobu Satou*, Takaho Watayo*, Hiroshi Sakurai*: Evaluation of distribution patterns for copper and zinc in metallothionein and superoxide dismutase in chronic liver diseases and hepatocellular carcinoma using high-performance liquid chromatography (HPLC), Biological and Pharmaceutical Bulletin , 28(7), 1137-1141, 2005

2.Kiyoshi Fukuhara*, Maki Nagakawa*, Ikuo Nakanishi, Kei Ohkubo*, Kohei Imai*, Shiro Urano*, Shunichi Fukuzumi*, Toshihiko Ozawa, Nobuo Ikota, Masataka Mochizuki*, Naoki Miyata*, Haruhiro Okuda*: Structural Basis for DNA-Cleaving Activity of Resveratrol in the Presence of Cu(II), Bioorganic & Medicinal Chemistry, 14(5), 1437-1443, 2006

3.Chi Cuiping, Ryoko Tanaka, Youhei Okuda, Nobuo Ikota, Haruhiko Yamamoto*, Shiro Urano*, Toshihiko Ozawa, Kazunori Anzai: Quantitative measurements of oxidative stress in mouse skin induced by X-ray irradiation, Chemical & Pharmaceutical Bulletin, 53(11), 1411-1415, 2005

4.J. K. Sundaray*, Kohei Ota*, Akihiko Yamaguchi*, Keiko Suzuki, Tomoya Matsuyama*: Diurnal rhythm of steroid biosynthesis in the testis of terminal phase male of protogynous wrasse, Pseudolabrus sieboldi, a daily spawner., Fish Physiology and Biochemistry, 28, 193-195, 2003

5.Keizo Takeshita, Chi Cuiping, Toshihiko Ozawa, et.al: In vivo generation of free radicals in the skin of live mice under ultraviolet light, measured by L-band EPR spectroscopy, Free Radical Biology and Medicine, 40, 876-885, 2006

6.Minoru Chikamori, Kazutaka Fukushima*: A new hexose transporter from Cryptococcus neoformans: molecular cloning and structural and functional characterization., Fungal Genetics and Biology, 42(7), 646-655, 2005

7.Ikuo Nakanishi, Chiho Nishizawa, Kei Ohkubo*, Keizo Takeshita, Kazuo T. Suzuki*, Toshihiko Ozawa, Sydny M Hecht*, Masayuki Tanno*, Shoko Sueyoshi*, Naoki Miyata*, Haruhiro Okuda*, Shunichi Fukuzumi*, Nobuo Ikota, Kiyoshi Fukuhara*: Hydroxyl Radical Generation via Photoreduction of a Simple Pyridine N-Oxide by an NADH Analogue, Organic & Biomolecular Chemistry, 3(18), 3263-3265, 2005

8.Shinjiro Miyake*, Kenichi Sasaguri*, Norio Hori*, Hirofumi Shoji*, Fumihiko Yoshino*, Hiroyuki Miyazaki*, Kazunori Anzai, Nobuo Ikota, Toshihiko Ozawa, Minoru Toyoda*, Sadao Sato*, Masaichi-chang-il Lee*: Biting reduces acute stress-induced oxidative stress in the rat hypothalamus, Redox Report, 10(1), 19-24, 2005

［放射線影響研究のための実験動物の開発に関する研究］

1.Seiji Kito, Yuki Oota: Medium Effects on Capacitation and Sperm Penetration Through the Zona Pellucida in Inbred BALB/c Spermatozoa, Zygote, 13(2), 145-153, 2005

［放射線応答遺伝子発現ネットワーク解析研究］

1.Hideshi Ishii*, Taeko Inageta*, Koshi Mimori*, Toshiyuki Saito, Hiroki Sasaki*, Masaharu Isobe*, Masaki Mori*, Carlo M. Croce*, Kay Huebner*, Keiya Ozawa*, Y Furukawa*: Frag1, a homolog of alternative replication factor C subunits, links replication stress surveillance with apoptosis., Proceedings of the National Academy of Sciences of the United States of America, 102, 9655-9660, 2005

［放射線障害に関する基盤的研究］

1.Masahiro Murakami, Issay Narumi, Katsuya Satoh*, Akira Furukawa, Isamu Hayata: Analysis of interaction between DNA and Deinococcus radiodurans PprA protein by Atomic force microscopy, Biochimica et Biophysica Acta. Proteins and Proteomics, 1764, 20-23, 2006

2.Reiko Kanda, Yi Shang, Satsuki Tsuji, Kiyomi Eguchi-Kasai, Isamu Hayata: An improved culture system of mouse peripheral blood lymphocytes for analysis of radiation-induced chromosome aberrations, Bioscience Reports, 24(6), 641-650, 2004

3.Kazuko Yoshida, et.al: Evidence for complex multigenic inheritance of radiation AML susceptibility in mice revealed using a surrogate phenotypic assay, Carcinogenesis, 27(2), 311-318, 2006

4.Tomohisa Hirobe, Kazumasa Wakamatsu*, Shosuke Ito*, Yoko Kawa*, Masako Mizoguchi*, et.al: The slaty mutation affects eumelanin and pheomelanin synthesis in mouse melanocytes, European Journal of Cell Biology, 85(6), 537-549, 2006

5.Kimihiko Sugaya, Etsuko Hongou, Hideo Tsuji: A temperature-sensitive mutation in the WD repeat-containing protein Smul is related to maintenance of chromosome integrity, Experimental Cell Research, 306, 242-251, 2005

6.根井　充、その他: カルタヘナ法の下での遺伝子組換え植物の取扱いについて、Foods & Food Ingredients Journal of Japan=食品・食品添加物研究誌、210(7)、614-624、2005

7.Tetsuo Nakajima, Osami Yukawa, Hideo Tsuji, Harumi Ohyama, Wang Bing, Kouichi Tatsumi, Isamu Hayata, Hiroko Inaba: Regulation of radiation-induced protein kinase Cdelta activation in radiation-induced apoptosis differs between radiosensitive and radioresistant mouse thymic lymphoma cell lines, Fundamental and Molecular Mechanisms of Mutagenesis : A Section of Mutation Research, 595, 029-036, 2006

8.Yasuo Asami*, Masahiro Murakami, Masatomi Shimizu*, Francesca M Pisani*, Isamu Hayata, Takehiko Nohmi*: Visualization of the interaction between archaeal DNA polymerase and uracil-containing DNA by atomic force microscopy, Genes to Cells, 11, 3-11, 2006

9.Osami Yukawa, Tetsuo Nakajima, Yuri Miura*, Junichi Ueda, Toshihiko Ozawa: Induction of radical scavenging ability and suppression of lipid peroxidation in rat liver microsomes following whole-body, low-dose X-irradiation, International Journal of Radiation Biology, 81(9), 681-688, 2005

10. Shuichi Yamaguchi*, Maki Hasegawa, Shirou Aizawa, Kaoru Tanaka, Kazuko Yoshida, Yuko Noda, Kouichi Tatsumi, Katsuiku Hirokawa*, Masanobu Kitagawa*: DNA-dependent protein kinase enhances DNA damage-induced apoptosis in association with Friend gp70, Leukemia Research, 29(3), 307-316, 2005

11. Kazuko Yoshida, et.al: Mutations of the PU.1 Ets domain are specifically associated with murine radiation-induced, but not human therapy-related, acute myeloid leukaemia, Oncogene, 24, 3678-3683, 2005

12. Wang Bing, Masahiro Murakami, Kiyomi Eguchi-Kasai, Kumie Nojima, Yi Shang, Kaoru Tanaka, Kazuko Fujita, Coffigny Herve*, Isamu Hayata: Effects of Prenatal Irradiation with an Accelerated Heavy-Ion Beam on Postnatal Development in Rats: I.Neurophysiological Alterations, Radiation Research, 164, 561-566, 2005

[（３）重粒子線治療に関する基盤研究]

[重粒子線がん治療臨床試験評価のための情報処理に関する研究]

1.山岸　宏匡*、吉田　茂史*、金子　宏*、長田　雅和*、黒崎　馨*、笠松　智孝*、川口　修*、塚本　信宏、安藤　裕、久保　敦司*: テキストマイニング技術を用いた読影レポートの記述単位による構造化、Medical Imaging Technology、23(5)、328-332、2005

[重粒子線及び標準線量測定法の確立に関する研究開発]

1.福村　明史、遠藤　真広、金井　達明、竹下　美津恵、坂間　誠、伊藤　彬*、高橋　豊*、保科　正夫、草野　陽介*、高瀬　英輔*、Ｇｕｎａｒａｔｎｅ　Ｊａｙａｎｔｈａ*: 平行平板形電離箱（ルース型およびアドバンスト・マーカス型）の校正定数比の実験的評価、医学物理、25(2)、75-79、2005

2.Naruhiro Matsufuji, Masataka Komori, Kengo Akiu, Masako Ohara, Akifumi Fukumura, Eriko Urakabe, Taku Inaniwa, Teiji Nishio*, Toshiyuki Kohno*, Tatsuaki Kanai, et.al: Spatial Fragment Distribution from a Therapeutic Pencil-Like Carbon Beam in Water, Physics in Medicine and Biology, 50, 3393-3403, 2005

3.Taku Inaniwa, Toshiyuki Kohno*, Takehiro Tomitani: Simulation for position determination of distal and proximal edges for SOBP irradiation in hadron therapy by using the maximum likelihood estimation method, Physics in Medicine and Biology, 50, 5829-5845, 2005

［照射方法の高精度化に関する研究開発］

1.Tsukasa Aso*, Nobuyuki Kanematsu, et.al: Verification of the dose distribution with GEANT4 simulation for proton therapy, IEEE Transactions on Nuclear Science, 52(4), 896-901, 2005

2.Shinji Satou, Atsushi Kitagawa, Mitsutaka Kanazawa, Eriko Urakabe, Takehiro Tomitani, Mitsuru Suda, Qiang Li, Taku Inaniwa, Katsushi Hanawa*, Kohsuke Sato*: A versatile control system for irradiation and measurement for secondary beam experiments in a heavy ion accelerator, HIMAC, Nuclear Instruments & Methods in Physics Research Section B, 240, 95-99, 2005

3.Kouichi Nakagawa, Yukio Satou: Investigation of Heavy-Ion-Induced Sucrose Radicals by Electron Paramagnetic Resonance, Radiation Research, 164, 336-338, 2005

［粒子線がん治療装置の小型化に関する研究開発］

1.Yoshikazu Kumamoto, Yutaka Noda, Yukio Satou, Tatsuaki Kanai, Takeshi Murakami: Measurement of Neutron Effective Dose and Attenuation Lengths for Shielding Materials at The Heavy-Ion Medical Accelerator in Chiba, Health Physics, 88, 469-479, 2005

2.佐藤　幸夫、大澤　大輔、岡田　裕樹*: 重粒子線のトラック構造と高 LET 効果、放射線、31(1)、33-40、2005

3.Viatcheslava Shevelko*, Yuuko Tawara, O V Ivanov*, Tomohiro Miyoshi*, Kouji Noda, Yukio Satou, A.V. Subottin*, I Yu Tolstikhina*: Target density effects in collision of fast ions with solid targets, Journal of Physics. B, Atomic, Molecular and Optical Physics, 38, 2675-2690, 2005

4.Tomonori Uesugi, Kouji Noda, E Syresin*, I Meshkov*, Shinji Shibuya*: Cool-stacking injection and damping of a transverse ion-beam instability at the HIMAC synchrotron, Nuclear Instruments & Methods in Physics Research Section A, 545, 45-56, 2005

5.Chihiro Ohmori*, Mitsutaka Kanazawa, Kouji Noda, Masahiro Kawashima*, Toshiyuki Misu, Yoshiharu Mori, Akinori Sugiura, Akira Takagi, Tomonori Uesugi: A multi-harmonics RF system using a MA cavity, Nuclear Instruments & Methods in Physics Research Section A, 547, 249-258, 2005

6.Tetsuya Nakanishi, Takuji Furukawa, Katsuhisa Yoshida*, Kouji Noda: Slow beam-extraction method using a fast Q-magnet assisted by RF-knockout, Nuclear Instruments & Methods in Physics Research Section A, 553, 400-406, 2005

7.Toshiyuki Misu, Akinori Sugiura, Mitsutaka Kanazawa, Satoru Yamada, et.al: High-permeability cobalt-based amorphous core for the use of an untuned broadband RF cavity, Nuclear Instruments & Methods in Physics Research Section A, 557, 383-389, 2006

8.Kouji Noda, Daisuke Tann*, Tomonori Uesugi, Shinji Shibuya*, Toshihiro Honma, Yoshinori Hashimoto*: Production of short-pulsed beam for ion-beam pulse radiolysis, Nuclear Instruments & Methods in Physics Research Section B, 240, 18-21, 2005

9.Shinji Shibuya*, Kouji Noda, Shu Nakamura*, Akira Noda*, Manfred Grieser*: Optimization of a beam line equipped with a laser ion source, Nuclear Instruments & Methods in Physics Research Section B, 240, 26-31, 2005

10. Takuji Furukawa, Kouji Noda, Takehiro Uesugi, Takuya Naruse*, Shinji Shibuya*: Intensity control in RF-knockout extraction for scanning irradiation, Nuclear Instruments & Methods in Physics Research Section B, 240, 32-35, 2005

11. Kazuo Yamamoto, Toshiyuki Hattori*, Noriyosu Hayashizaki, Toshiki Hata*, Hirotsugu Kashiwagi*, Yasuyuki Takahashi*: Proof examination of alternating phase focusing, Nuclear Instruments & Methods in Physics Research Section B, 240, 44-47, 2005

12. Satoru Houjou, Toshihiro Honma, Yukio Sakamoto, Satoru Yamada: Production of 11C-beam for particle therapy, Nuclear Instruments & Methods in Physics Research Section B, 240, 75-78, 2005

13. Atsushi Kitagawa, Masayuki Muramatsu, Shinji Satou, Mitsuru Suda, Kouji Noda, Tatsuaki Kanai: New medical irradiation technique by the permanent magnet system for the heavy-ion therapy, Nuclear Instruments & Methods in Physics Research Section B, 240, 79-82, 2005

14. Daisuke Ohsawa, Yukio Satou, Yuki Okada, Viatcheslava Shevelko*, Fuminori Soga: 6.0-10.0-MeV/u He^{2}+-ion-induced electron emission from water vapor, Physical Review A, 72(6), 062710-1-062710-13, 2005

15. Daisuke Ohsawa, Yukio Satou, Yuki Okada, Viatcheslava Shevelko*, Fuminori Soga: Unexpectedly large cross sections of high-energy electrons ejected from water vapor by 6.0-10.0 MeV/u He2+ ions, Physics Letters A, 342, 168-174, 2005

［粒子線治療の生物効果に関する研究］

1.G Esposito*, Francesca Antonelli*, Mauro Belli*, A Campa*, Valentina Dini*, Yoshiya Furusawa, Giustina Simone*, Eugenio Sorrentino*, Maria Antonella Tabocchini*: DNA DSB induced by iron ions in human fibroblasts: LET dependence and shielding efficiency, Advances in Space Research, 35, 243-248, 2005

2.Toshiyuki Ogata*, Teruki Tashima*, Kazufumi Kagawa*, Yoshio Hishikawa*, Yutaka Takahashi*, Atsuko Kawaguchi, Yuuko Suzumoto, Kumie Nojima, Yoshiya Furusawa, Nariaki Matsuura*: Particle irradiation suppresses metastatic potential of cancer cells, Cancer Research, 65(1), 113-120, 2005

3.Akihisa Takahashi*, Hideki Matsumoto*, Yoshiya Furusawa, Ken Ohnishi*, Takeo Ohnishi*, et.al: Apoptosis induced by high-LET radiations is not affected by cellular p53 gene status, International Journal of Radiation Biology, 81(8), 581-586, 2005

4.Manami Monobe, Akiko Uzawa, Koichi Ando, Shuji Kojima*, et.al: Glycine betaine, a beer component, protects radiation-induced injury, Journal of Radiation Research, 46(1), 117-121, 2005

5.Koichi Ando, Sachiko Koike, Akiko Uzawa, Nobuhiko Takai, Takeshi Fukawa, Yoshiya Furusawa, Mizuho Aoki, Yasuyuki Miyato: Tumor induction in mice locally irradiated with carbon ions:a retrospective analysis, Journal of Radiation Research, 46(1), 185-190, 2005

6.Koichi Ando, Sachiko Koike, et.al: Early growth of experimental lung metastasis in mouse, Journal of Radiation Research, 46(1), 289-292, 2005

7.Koichi Ando, Sachiko Koike, Akiko Uzawa, Nobuhiko Takai, Takeshi Fukawa, Yoshiya Furusawa, Mizuho Aoki, Yasuyuki Miyato: Biological gain of carbon-ion radiotherapy for the early response of tumor growth delay and agains aerly response of skin reaction in mice, Journal of Radiation Research, 46(1), 51-57, 2005

8.Ryoichi Hirayama, Yoshiya Furusawa, Takeshi Fukawa, Koichi Ando: Repair Kinetics of DNA-DSB Induced by X-rays or Carbon Ions under Oxic and Hypoxic Conditions, Journal of Radiation Research, 46(3), 325-332, 2005

9.Kenichi Mishima, Naoya Aoh, Nobuhiko Takai, Sentaro Takahashi, Nobuaki Egashira, Katsunori Iwasaki, et.al: Hypoxia-ischemic insult in neonatal rats induced slowly progressive brain damage related to memory impairment, Neuroscience Letters, 16(376(3)), 194-199, 2005

10. Manami Monobe, Sachiko Koike, Akiko Uzawa, Mizuho Aoki, Nobuhiko Takai, Takeshi Fukawa, Yoshiya Furusawa, Koichi Ando: Radioprotective activities of beer administration for radiation-induced actute toxicity in mice, Radiotherapy and Oncology, 73(Suppl.2), S127-S129, 2004

[（４）画像診断に関する基盤的研究]
[NMR に関する基盤的研究]

1.Junichi Takanashi, Hiroko Tada, Naokatsu Saeki*, et.al: Pituitary cysts in childhood evaluated by MR imaging, American Journal of Neuroradiology, 26, 2144-2147, 2005

2.Junichi Takanashi, et.al: Central Tegmental Tract Involvement in an Infant with 6-Pyruvoyltetrahydropterin Synthetase Deficiency, American Journal of Neuroradiology, 27, 584-585, 2006

3.Junichi Takanashi, Hiroko Tada, et.al: Widening Spectrum of a Reversible Splenial Lesion with Transiently Reduced Diffusion., American Journal of Neuroradiology, 27, 836-838, 2006

4.Junichi Takanashi, et.al: Neonate showing a reversible splenial lesion, Archives of Neurology, 62, 1481-1482, 2005

5.Atsuya Watanabe, Yuichi Wada*, Takayuki Obata, Takuya Ueda*, Mitsuru Tamura, Hiroo Ikehira, Hideshige Moriya*, et.al: Time course Evaluation of Reparative Cartilage with MR Imaging after Autologous Chondrocyte Implantation, Cell Transplantation, 14(9), 695-700, 2005

6.Junichi Takanashi, Hiroko Tada, et.al: Magnetic Resonance Imaging confirms periventricular venous infarction in a term-born child with congenital hemiplegia, Developmental Medicine and Child Neurology, 47, 706-708, 2005

7.Kazuyuki Saito, Koichi Ito, et.al: Interstitial microwave hyperthermia using coaxial-slot antennas - clinical trials based on numerical calculations of heating patterns -, Japanese Journal of Hyperthermic Oncology, 21(4), 237-244, 2005

8.Junichi Takanashi, et.al: Recurrent meningitis associated with a petrous apex cephalocele, Journal of Child Neurology, 20(2), 168-170, 2005

9.Junichi Takanashi, et.al: Episodic hyponatremia in mitochondrial encephalomyopathy, lactic acidosis, and strokelike episodes (MELAS)., Journal of Child Neurology, 20, 116-120, 2005

10. Shinichiro Mori, Masahiro Endo, Shigeo Furukawa, Masayoshi Sunaoka, Hiroi Nonaka, Takayoshi Ishii, Hiroo Ikehira: Development of high-radiation-sensitive polymer gel for magnetic resonance imaging in three-dimensional dosimetry, Magnetic Resonance Imaging, 23(5), 691-694, 2005

11. Junichi Takanashi, Hiroko Tada, et.al: Cortical liquefaction in severe human herpesvirus 6 encephalopathy, Neurology, 66, 452-453, 2006

12. Hiroko Tada, Junichi Takanashi, et.al: Intracranial Dural Venous Anomalies in Familial Cervical Cystic Hygroma., Pediatric Neurology, 32(1), 50-52, 2005

13. Tomoko Hamaoka*, Hiroo Ikehira, Takayuki Obata, Shuji Tanada, Yasuhito Sasaki, et.al: Metabolic activity in skeletal muscles of patients with non-hypoxaemic chronic obstructive pulmonary disease studied by P-magnetic resonance spectroscopy., Respirology, 10(2), 164-170, 2005

14.齊藤　一幸、伊藤　公一、その他: UWB 通信帯域における生体等価ファントムの特性、電子情報通信学会論文誌 B、通信、J88-B(9)、1674-1681、2005

[PET 及び SPECT に関する基盤的研究]

1.Takashi Itoh*, Kazutoshi Suzuki, Kaoru Kobayashi*, Osamu Inoue*: Effects of anesthesia upon 18F-FDG uptake in rhesus monkey brains, Annals of Nuclear Medicine, 19(5), 373-377, 2005

2.Takashi Itoh*, Kaoru Kobayashi*, Kazutoshi Suzuki, Osamu Inoue*: Binding kinetics of 11C-N-methyl piperidyl benzilate (11C-NMPB) in a rhesus monkey brain using the cerebellum as a reference region, Annals of Nuclear Medicine, 19(6), 499-505, 2005

3.Ryuji Nakao, Takayo Kida*, Kazutoshi Suzuki: Factors affecting quality control of [18F]FDG injection: bacterial endotoxins test, aluminum ions test and HPLC analysis for FDG and ClDG, Applied Radiation and Isotopes, (62(6)), 889-895, 2005

4.Toshimitsu Okamura, Tatsuya Kikuchi, Ayaka Nagamine*, Kiyoshi Fukushi, Yasushi Arano, Toshiaki Irie: An approach for measuring in vivo cerebral redox states using the oxidative conversion of dihydropyridine to pyridinium ion and the metabolic trapping principle, Free Radical Biology and Medicine, (38), 1197-1205, 2005

5.Tatsuya Kikuchi, Ming-Rong Zhang, Nobuo Ikota, Kiyoshi Fukushi, Toshimitsu Okamura, Kazutoshi Suzuki, Yasushi Arano, Toshiaki Irie: N-[18F]Fluoroethylpiperidin-4ylmethyl Acetate, a Novel Lipophilic Acetylcholine Analogue for PET Measurement of Brain Acetylcholinesterase Activity, Journal of Medicinal Chemistry, 48(7), 2577-2583, 2005

6.Tetsuya Shiraishi, Tatsuya Kikuchi, Kiyoshi Fukushi, Hitoshi Shinoto, Shinnichiro Nagatsuka*, Noriko Tanaka, Tsuneyoshi Ota, Koichi Sato, Shigeki Hirano, Shuji Tanada, Masaomi Iyo*, Toshiaki Irie: Estimation of Plasma IC50 of Donepezil Hydrochloride for Brain Acetylcholinesterase Inhibition in Monkey Using N-[11C]methylpiperidin-4-yl Acetate ([11C]MP4A) and PET, Neuropsychopharmacology, 30, 2154-2161, 2005

7.Ferenc Szelecsenyi, G.f Steyn*, Zoltan Kovacs, T.n.van Der Walt*, Kazutoshi Suzuki, Kazuhiro Okada*, Kensaku Mukai: New cross-section date for the ^{66}Zn(p,n)^{66}Ga, ^{68}Zn(p,3n)^{66}Ga, natZn(p,x)^{66}Ga, ^{68}Zn(p,2n)^{67}Ga and natZn(p,x)^{67}Ga nuclear reaction up to 100 Mev, Nuclear Instruments & Methods in Physics Research Section B, 234, 375-386, 2005

8.Szelecsenyi Ferenc*, Zoltan Kovacs*, Kazutoshi Suzuki, Kensaku Mukai: Investigation of the ^{66}Zn(p,2pn)^{64}Cu and ^{68}Zn(p,x)^{64}Cu nuclear processes up to 100 MeV: Production of ^{64}Cu, Nuclear Instruments & Methods in Physics Research Section B, 240, 625-637, 2005

9.Toshiaki Irie, Ryohei Amano: Axonal transport of rubidium and thalium in the olfactory nerve of mice, Nuclear Medicine and Biology, 32, 505-512, 2005

10. Ryuji Nakao, Takehito Ito*, Masatoshi Yamaguchi*, Kazutoshi Suzuki: Improved quality control of [18F]FDG by HPLC with UV detection, Nuclear Medicine and Biology, 32, 907-912, 2005

11. Naoyuki Watanabe*, Shuji Tanada, Yasuhito Sasaki: EFFECT OF CALCIUM TRISODIUM DTPA IN RATS WITH PUNCTURE WOUND CONTAMINATED BY 90Y-CHLORIDE, Radiation Protection Dosimetry, 114(4), 509-513, 2005

12. Keitaro Tanoi*, Junko Hojo*, Kazutoshi Suzuki, Tomoko Nakanishi*: Analysis of Potassium Uptake by Rice Roots Treated with Aluminum Using a Positron Emitting Nuclide,38K, Soil Science and Plant Nutrition, 51(5), 715-717, 2005

[（５）医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]
[医学利用放射線による患者・医療従事者の線量評価及び防護に関する研究]

1.Koji Ono*, Takayasu Yoshitake*, Keiichi Akahane, Yasunari Yamada*, Toru Maeda*, Michiaki Kai*, Tomoko Kusama*: Comparison of a digital flat-panel versus screen-film, photofluorography and storage-phosphor systems by detection of simulated lung adenocarcinoma lesions using hard copy images, British Journal of Radiology, 78(934), 922-927, 2005

2.岩井　一男*、橋本　光二*、澤田 久仁彦*、松本　邦史*、里見 智恵子*、生木　俊輔*、松本　光彦*、西澤 かな枝: ビデオ嚥下造影検査時の被曝線量、日大歯学、79、157-161、2005

[（６）脳機能研究]
[脳機能研究]

1.Takuya Morimoto, Takayuki Obata, Tatsuya Ohno, Yoshiyuki Suzuki, Hiroo Ikehira, Tetsuya Suhara, Shigeo Furukawa, Hirohiko Tsujii, Takashi Nakano*: Phosphorous-31 magnetic resonance spectroscopy of cervical cancer using transvaginal surface coil, Magnetic Resonance in Medical Sciences, 4(4), 197-201, 2005

2.Satoshi Umeda*, Yoshihide Akine, Motoichiro Kato, Taro Muramatsu, Masaru Mimura*, Susumu Kandatsu, Shuji Tanada, Takayuki Obata, Hiroo Ikehira, Tetsuya Suhara: Functional network in the prefrontal cortex during episodic memory retrieval, NeuroImage, 26(3), 932-940, 2005

[（８）国際共同研究]

[子宮頚がん放射線治療におけるアジア地域国際共同臨床試行研究]

1.Kurnia Lin*, Tatsuya Ohno, Shingo Kato, Hidefumi Ezawa, Junko Noguchi, Hirohiko Tsujii: Histopathological radiation effect and MIB-1 expression in cervical cancer: comparison of early response by radiotherapy with or without cisplatin, Austral-Asian Journal of Cancer, 4(4), 201-204, 2005

2.大野　達也、加藤　真吾、辻井　博彦: 局所進行子宮頚癌に対する Weekly シスプラチン併用放射線治療の第 I 相試験、日本婦人科腫瘍学会雑誌、23(4)、564-571、2005

[競争的研究]

[科研費]

[血管新生を標的とした治療の放射線療法への応用に関する基礎的検討]

1.Hideyuki Sakurai*, Hitoshi Ishikawa, Tetsuo Akimoto*, Masatoshi Hasegawa*, Takashi Nakano*: Attenuation of chronic thermotolerance by KNK437, a benzylidene lactam compound, enhances thermal radiosensitization in mild temperature hyperthermia combined with low dose-rate irradiation, International Journal of Radiation Biology, 81(9), 711-718, 2005

[共同研究]

[共同研究]

[ヒト大腸がんの発症機構とマイクロサテライト不安定性]

1.Shinya Oda*, Mitsuaki Yoshida, et.al: Two modes of microsatellite instability in human cancer:differential connection of defective DNA mismatch repair to dinucleotide repeat instability, Nucleic Acids Research, 33(5), 1628-1636, 2005

[個人業績]

[課題外]

[課題外]

1.Chikako Tanaka*, Hirofumi Fujii, Yuko Kitagawa*, Tadaki Nakahara*, Takayuki Suzuki*, Yuzuru Tanami*, Masaki Kitajima*, Yutaka Ando, Atsushi Kubo*: Oblique view of preoperative lymphoscintigraphy improves detection of sentinel lymph nodes in esophageal cancer, Annals of Nuclear Medicine, 19(8), 719-723, 2005

2.Yuuko Nakayama*, Hitoshi Ishikawa, Masatoshi Hasegawa, Takashi Nakano*, et.al: An Eight-year Survivor with Multiple Brain Metastases of Non-small Cell Lung Cancer: an Autopsy Case, Anticancer Research, 26, 605-609, 2006

3.Sumitaka Hasegawa, et.al: Modulating the splicing activitiy of Tetrahymena ribozyme via RNA self-assembly, FEBS Letters, 580(6), 1592-1596, 2006

4.Hideyuki Sakurai*, Yoshiyuki Suzuki*, Hitoshi Ishikawa, Masatoshi Hasegawa*, Takashi Nakano*, et.al: FDG-PET in the detection of recurrence of uterine cervical carcinoma following radiation therapy-tumor volume and FDG uptake value, Gynecologic Oncology, 100, 601-607, 2005

5.Tetsuo Akimoto*, Hitoshi Ishikawa, Takashi Nakano*: Acute Toxicity and Preliminary Clinical Outcomes of Concurrent Radiation Therapy and Weekly Docetaxel and Daily Ciplatin for Head and Neck Cancer, Japanese Journal of Clinical Oncology, 35(11), 639-644, 2005

6.Hitoshi Ishikawa, Hideyuki Sakurai*, Masaru Wakatuki, Masatoshi Hasegawa*, Takashi Nakano*, et.al: Challenge of Hyperthermia Combined with Chemotherapy or Chemo-radiotherapy for Unresectable Intrathoracic Malignant Tumors: A Preliminary Result, Japanese Journal of Hyperthermic Oncology, 21(3), 159-168, 2005

7.Hitoshi Ishikawa, Hideyuki Sakurai*, Masatoshi Hasegawa*, Takashi Nakano*: Clinical Outcomes and Prognostic Factors for Patients With Early Esophageal Squamous Cell Carcinoma Treated With Definitive Radiation Therapy Alone, Journal of Clinical Gastroenterology, 39(6), 495-500, 2005

8.Reika Wate*, Sentaro Takahashi, Yoshihisa Kubota, Katsutoshi Suetomi, Yoshihisa Kubota, Hiroshi Sato, Ryuichi Okayasu, et.al: Radio-sensitivity of the Cells from Amyotrophic Lateral Sclerosis Model Mice Transfected with Human Mutant SOD1, Journal of Radiation Research, 46, 00067-00073, 2005

9.Atsuko Shimada*, Hoshio Eguchi*, Shinji Yoshinaga, Akihiro Shima*: Dose-rate effect on transgenerational mutation frequencies in spermatogonial stem cells of the Medaka Fish, Radiation Research, 163, 112-114, 2005

10. Wataru Noguchi*, Tatsuya Ohno, Okihiko Aihara*, Hirohiko Tsujii, et.al: Spiritual needs in cancer patients and spiritual care based on logotherapy., Supportive Care in Cancer, 14(1), 65-70, 2006

［技術支援・開発業務］

1.Shigeo Matsuyama*, Keizo Ishii*, S Abe*, H Ohtu*, Hiromichi Yamazaki*, Y Kikuchi*, TS Amartaivan*, K Inomata*, Y Watanabe*, A Ishizaki*, Y Barbotteau*, A Suzuki*, T Yamaguchi*, G Momose*, Hitoshi Imaseki: Microbeam Analysis at Tohoku University for Biological Studies, International Journal of PIXE, 15(1/2), 41-45, 2005

2.Shigeo Matsuyama*, Keizo Ishii*, Hiromichi Yamazaki*, Y Kikuchi*, TS Amartaivan*, S Abe*, K Inomata*, Y Watanabe*, A Ishizaki*, R Oyama*, Y Kawamura*, A Suzuki*, G Momose*, T Yamaguchi*, Hitoshi Imaseki: Microbeam Analysis of Single Aerosol Particles at Tohoku University, International Journal of PIXE, 15(3/4), 257-262, 2005

3.Hitoshi Imaseki, Keizo Ishii*, Takahiro Ishikawa, Hiroyuki Iso*, Takayuki Shinomiya, Tsuyoshi Hamano, Masae Yukawa: Development of Droplet-PIXE System for Environmental Monitoring Samples, International Journal of PIXE, 15(3/4), 293-299, 2005

[受託研究及び行政のために必要な業務]
[受託（ＪＳＴ）]
[全方向性 γ 線検出器]

1.白川　芳幸、その他: モニタリングポスト型全方向性 γ 線検出器のエネルギー応答特性、Radioisotopes、55(1)、15-22、2006

[受託研究費]
[新規高精度遺伝子発現プロフィール（HiCEP）法の開発]

1.Mikihiko Morinobu*, Tetsuya Nakamoto*, Kazunori Hino*, Kunikazu Tsuji*, Zhong-Jian Shen*, Kazuhisa Nakashima*, Akira Nifuji, Haruyasu Yamamoto*, Hisamaru Hirai*, Masaki Noda*: The nucleocytoplasmic shuttling protein CIZ reduces adult bone mass by inhibiting bone morphogenetic protein-induced bone formation., The Journal of Biological Chemistry, 201(6), 961-970, 2005

2.Hisataka Kondo*, Akira Nihuzhi*, Shu Takeda*, Yoichi Ezura*, Susan R Rittling*, David T. Denhardt*, Kazuhisa Nakashima*, Gerard Karsenty*, Masaki Noda*: Unloading induces osteoblastic cell suppression and osteoclastic cell activation to lead to bone loss via sympathetic nervous system., The Journal of Biological Chemistry, 280(34), 30192-30200, 2005

[低線量域放射線に特有な生体反応の多面的解析]

1.Manabu Koike, Aki Koike: The Ku70-binding site of Ku80 is required for the stabilization of Ku70 in the cytoplasm, for the nuclear translocation of Ku80, and for Ku80-dependent DNA repair, Experimental Cell Research, 305, 266-276, 2005

[放射性核種生物圏移行パラメータ調査]

1.Shigeo Uchida, Keiko Tagami, Ken Tabei: Comparison of alkaline fusion and acid digestion methods for the determination of rhenium in rock and soil samples by ICP-MS, Analytica Chimica Acta, 535, 317-323, 2005

2.Nobuyoshi Ishii, Shigeo Uchida: Gram-negative bacteria responsible for Insoluble technetium formation and the fate of insoluble Tc in the water column above flooded paddy soil, Chemosphere, 60(2), 157-163, 2005

3.Keiko Tagami, Shigeo Uchida: A comparison of concentration ratios for technetium and nutrient uptake by three plant species, Chemosphere, 60, 714-717, 2005

4.Yasuo Nakamaru, Keiko Tagami, Shigeo Uchida: Effect of phosphate addition on the sorption-desorption reaction of selenium in Japanese agricultural soils, Chemosphere, 63, 109-115, 2006

5.Yasuo Nakamaru, Keiko Tagami, Shigeo Uchida: Antimony mobility in Japanese agricultural soils and the factors affecting antimony sorption behavior, Environmental Pollution, 141, 321-326, 2006

6.中丸　康夫、内田　滋夫、荻生　延子、高橋　知之、その他: 土壌中元素濃度分布マッピングシステムによる放射性核種の移動性評価、日本土壌肥料学雑誌、76(4)、421-426、2005

7.Keiko Tagami, Shigeo Uchida: Transfer of REEs from nutrient solution to radish through fine roots and their distribution in the plant, Journal of Alloys and Compounds, 408/412, 409-412, 2006

8.Yasuo Nakamaru, Keiko Tagami, Shigeo Uchida: Effect of nutrient uptake by plant roots on the fate of REEs in soil, Journal of Alloys and Compounds, 408/412, 413-416, 2006

9.Shigeo Uchida, Keiko Tagami, Ken Tabei, Ikuko Hirai: Concentrations of REEs, Th and U in river waters collected in Japan, Journal of Alloys and Compounds, 408/412, 525-528, 2006

10. Nobuyoshi Ishii, Hiroyuki Koiso, Shigeo Uchida: The formation of insoluble Tc depends on bacterial activity, Journal of Nuclear and Radiochemical Sciences, 6(1), 87-89, 2005

11. Jose Luis Mas*, Keiko Tagami, Shigeo Uchida: Rhenium measurements on North Atlantic seaweed samples by ID-ICP-MS: an observation on the Re concentration factors, Journal of Radioanalytical and Nuclear Chemistry, 265(3), 361-365, 2005

12. Yasuo Nakamaru, Keiko Tagami, Shigeo Uchida: Depletion of selenium in soil solution due to its enhanced sorption in the rhizosphere of soybean, Plant and Soil, 278(1/2), 293-301, 2005

13.田上　恵子、平井　育子、内田　滋夫: オクタポールリアクションシステム ICP-MS による我が国の主要２５河川中のヒ素及びセレンの濃度測定、Radioisotopes、54、577-585、2005

14.中丸　康夫: 根圏土壌における Cs および Sr の可給性に及ぼす植物生育ステージの影響、Radioisotopes、55(3)、125-133、2006

15. Keiko Tagami, Shigeo Uchida: Absorption behavior of technetium and rhenium through plant roots, Radioprotection, 40(Suppl. 1), S125-S128, 2005

16. Shigeo Uchida, Keiko Tagami, Ikuko Hirai, et.al: Transfer factors of radionuclides and stable elements from soil to rice and wheat, Radioprotection, 40(Suppl. 1), S129-S134, 2005

[電源開発促進対策特別会計]
[緊急被ばく医療に関する実証及び成果提供等]

1.Mamoru Haratake, Masahiro Ono*, Makoto Akashi, Morio Nakayama*, et.al: Synthesis of hydrophilic macroporous chelating polymers and their versatility in the preconcentration of metals in seaweter samples, Analytica Chimica Acta, 561, 183-190, 2006

2.Manabu Koike, Tomoe Shiomi, Aki Koike: Identification of Skin Injury-related Genes Induced by Ionizing Radiation in Human Keratinocytes using cDNA Microarray., Journal of Radiation Research, 46(2), 173-84, 2005

3.Manabu Koike, Yasuharu Ninomiya, Aki Koike: Characterization of ATF3 Induction after Ionizing Radiation in Human Skin Cells, Journal of Radiation Research, 46, 379-385, 2005

4.Manabu Koike, Jun Sugasawa, Aki Koike, Yohko Kohno*: p53 phosphorylation in mouse skin and in vitro human skin model by high-dose-radiation exposure, Journal of Radiation Research, 46, 461-468, 2005

5.白川　芳幸: サーベイメータの応答性の高速化、Radioisotopes、54(7)、199-204、2005

[重粒子共同利用研究]
[生物]
[Diferential Gene Expression Induced by High LET Charged Particles in Normal Human Fibroblasts]

1.Ling-hao Ding*, Masato Shingyoji*, Kiyomi Eguchi-Kasai, David J. Chen*, et.al: Gene Expression Changes in Normal Human Skin Fibroblasts Induced by HZE-Particle Radiation, Radiation Research, 164(4), 523-526, 2005

[Study of Damages of DNA Loaded with High-Z Atoms by Atomic Ions (B462)]

1.Noriko Usami*, Yoshiya Furusawa, Katsumi Kobayashi*, et.al: Fast He2+ Ion Irradiation of DNA Loaded With Platinum-Containing Molecules, International Journal of Radiation Biology, 81(7), 515-522, 2005

［ブラッグピーク近傍の重粒子イオンを用いたイオン特異的なＤＮＡ損傷の誘発と修復 (B413)］

1.Teruaki Konishi*, Akihiro Takeyasu*, Nakahiro Yasuda, Toshiyuki Natsume, Hiroshi Nakajima*, Kenichi Matsumoto*, Yukio Satou, Yoshiya Furusawa, Kotaro Hieda*: Number of Fe Ion Traversals Through a Cell Nucleus for Mammalian Cell Inactivation Near the Bragg Peak, Journal of Radiation Research, 46(4), 415-424, 2005

2.Teruaki Konishi*, Akihiro Takeyasu*, Nakahiro Yasuda, Sachi Ishizawa*, Hiroshi Nakajima*, Takayuki Fujisaki*, Yoshiya Furusawa, Yukio Satou, Kotaro Hieda*: Irradiation system of ions (H-Xe) for biological studies near the Bragg peak, Review of Scientific Instruments, 76(114302), 1-6, 2005

［物理・工学］

[Radial size and chemical structure of nuclear tracks in polymers]

1.Nakahiro Yasuda, Teruaki Konishi, Kenichi Matsumoto, Tomoya Yamauchi, Taku Asuka, Yoshiya Furusawa, Yukio Satou, Keiji Oda, Yuuko Tawara*, Kotaro Hieda*: Dose distribution of carbon ions in air assessed using the imaging plates and ionization chamber, Radiation Measurements, 40, 384-388, 2005

[Research on biological effects of radioactive ion beam]

1.Qiang Li, Yoshiya Furusawa, Mitsutaka Kanazawa, Tatsuaki Kanai, Atsushi Kitagawa, Mizuho Aoki, Eriko Urakabe, Takehiro Tomitani, Shinji Satou, Mitsuo Yoshimoto, wei zenkyuan*: Enhanced efficiency in cell killing at the penetration depths around the Bragg peak of a radioactive 9C-ion beam, International Journal of Radiation Oncology Biology Physics, 63(4), 1237-1244, 2005

［過熱液滴型検出器の重イオンに対する応答とその応用］

1.Mala Das, Nakahiro Yasuda, Teruko Sawamura, et.al: Threshold temperatures of heavy ion-induced nucleation in superheated emulsions, Nuclear Instruments & Methods in Physics Research Section A, 543, 570-576, 2005

［高エネルギー重イオン飛跡記録用高感度泡検出器の開発］

1.Shi-Lun Guo*, Tadayoshi Doke, Nakahiro Yasuda, Takeshi Murakami, et.al: Comparison between theoretical model and experimental calibrations and its inference for track formation in bubble detectors, Radiation Measurements, 40, 229-233, 2005

［重粒子線治療照射法に関する総合的研究］

1.Ryosuke Kohno, Nakahiro Yasuda, Keiko Ochiai, Tatsuaki Kanai, Naruhiro Matsufuji, et.al: Measurements of dose-averaged linear energy transfer distributions in water using CR-39 plastic nuclear track detector for therapeutic carbon ion beams, Japanese Journal of Applied Physics, 44(12), 8722-8726, 2005

［放射線に関するライフサイエンス研究］
［分子イメージング研究］
［精神・神経疾患イメージング研究］

1.Hiroshi Ito, Kentaro Inoue*, Ryoi Goto*, Shigeo Kinomura*, Yasuyuki Taki*, Ken Okada*, Kazunori Sato*, Tachio Sato*, Iwao Kanno*, Hiroshi Fukuda*: Database of normal human cerebral blood flow measured by SPECT: I. Comparison between I-123-IMP, Tc-99m-HMPAO, and Tc-99m-ECD as referred with O-15 labeled water PET and voxel-based morphometry, Annals of Nuclear Medicine, 20(2), 131-138, 2006

2.Y Yamada*, Kentaro Kogure*, Kaori Inoue, Hidetaka Akita, Fumi Nagatsugi, Shigeki Sasaki*, Tetsuya Suhara, Hideyoshi Harashima, et.al: Development of efficient packaging method of oligodeoxynucleotides by a condensed nano particle in lipid envelope structure, Biological and Pharmaceutical Bulletin , 28(10), 1939-1942, 2005

3.Motoki Inaji, Takashi Okauchi, Kiyoshi Andou, Jun Maeda, Yuji Nagai, Takahito Yoshizaki*, Hideyuki Okano*, Tadashi Nariai, Kikuo Ono*, Shigeru Obayashi, Makoto Higuchi, Tetsuya Suhara: Correlation between quantiative imaging and behavior in unilaterally 6-OHDA-lesioned rats., Brain Research, 1064, 136-145, 2005

4.Motoki Inaji, Takahito Yoshizaki*, Takashi Okauchi, Jun Maeda, Yuji Nagai, Hideyuki Okano*, Tadashi Nariai*, Kikuo Ono*, Kiyoshi Andou, Shigeru Obayashi, Tetsuya Suhara: In vivo PET measurements with [11C]PE2I to evaluate fetal mesencephalic transplantations to unilateral 6-OHDA-lesioned rats., Cell Transplantation, 14, 655-663, 2005

5.Hin Ki, Jun Maeda, Makoto Higuchi, Kaori Inoue, Hidetaka Akita, Hideyoshi Harashima, Tetsuya Suhara: Pharmacokinetics and brain uptake of lactoferrin in rats, Life Sciences, 78, 851-855, 2006

6.Hidehiko Takahashi, Akihiro Takano, Kunihiko Asai*, Tetsuya Suhara, Yoshiro Okubo, et.al: Effects of dopaminergic and serotonergic manipulation on emotional processing : a pharmacological fMRI study, NeuroImage, 27, 991-1001, 2005

7.Akihiro Takano, Tetsuya Suhara, Ichiro Kusumi*, Yoshihito Takahashi*, Yoshiyuki Asai, Fumihiko Yasuno*, Tetsuya Ichimiya*, Makoto Inoue*, Yasuhiko Sudo*, Tsukasa Koyama*: Time course of dopamine D2 receptor occupancy by clozapine with medium and high plasma concentrations., Progress in Neuro-Psychopharmacology & Biological Psychiatry, 30, 75-81, 2006

［分子プローブ・放射薬剤合成技術の研究開発］

1.Ming-Rong Zhang*, Jun Maeda*, Takehito Ito*, Takashi Okauchi*, Masanao Ogawa*, Junko Noguchi*, Tetsuya Suhara, Christer Halldin*, Kazutoshi Suzuki: Synthesis and evaluation of N-(5-fluoro-2-phenoxyphenyl)-N-(2-[18F]fluoromethoxy-d2-5-methoxybenzyl)acetamide:a deuterium-substituted radioligand for peripheral benzodiazepine receptor, Bioorganic & Medicinal Chemistry, 13, 1811-1818, 2005

2.Hideya Kawai*, Jun Toyohara, Yoshiharu Yonekura: Acquisition of resistance to antitumor alkylating agent ACNU: a possible target of positron emission tomography monitoring, Nuclear Medicine and Biology, 33, 29-35, 2006

［放射線安全・緊急被ばく医療研究］
［放射線安全研究］
［放射線安全・規制ニーズに対応する環境放射線影響研究］

1. Valery Ramzaev*, Hidenori Yonehara, Sahoo Sarata Kumar, Katsumi Kurotaki, Masafumi Uchiyama*, et.al: Gamma-dose rates from terrestrial and Chernobyl radionuclides inside and outside settlements in the Bryansk Region, Russia in 1996-2003, Journal of Environmental Radioactivity, 85, 205-227, 20