

Technical Publications  
by JAERI Staff

from July 1965  
to December 1966

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February 1967

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# Technical Publications by JAERI Staff from July 1965 to December 1966

UDC: 016: 061.6.055

## [Summary] Technical Publications by JAERI Staff from July 1965 to December 1966

Approximately 300 journal papers, meeting papers, reports and books are given, which have been published by personnel of JAERI from July 1965 to December 1966. The contents for each entry include the title, language in which it is written, author(s), and journal name or origin. A list of the patents, originating at JAERI, including both Japanese and other patents, is also given.

Feb. 1967

Division of Technical Information  
Japan Atomic Energy Research Institute

UDC: 016: 061.6.055

## 〔要 旨〕 日本原子力研究所研究成果発表リスト (1965年7月～1966年12月)

1965年7月から1966年12月までの間に、日本原子力研究所の所員によって発表された研究成果のうち、雑誌論文・会議の報文・レポート・単行本約300件について、その標題・国語・筆者・所在を示した。また、研究所で発生した国内・国外の特許一覧表を付した。

1967年2月

日本原子力研究所  
技 術 情 報 部

JAPAN ATOMIC ENERGY RESEARCH INSTITUTE

## Preface

About ten years have passed since the establishment of Japan Atomic Energy Research Institute in 1956. During the years, the Institute has functioned as the center of nuclear research and development in Japan. The results of research and development thus produced have been reported or published through various media, including meetings. It is intended in the present volume to compile a listing of all these reports. The volume is first divided in the nine major fields of research, and journal papers, reports, other papers and books are given in order under the respective fields; patents are gathered at the end of the volume. Reviews and articles of general character deemed useful for scientists and technologists in foreign countries are given; reports presented orally are not contained. Papers and articles of Japan are usually inaccessible to oversea scientists and technologists. Nevertheless, a guide to the availability of Japanese nuclear literature is given, to which one should refer for their acquisition.

February 1967

Division of Technical Information  
Japan Atomic Energy Research Institute



## Contents

### Introduction

#### Reactor Engineering

Journal Articles . . . . .	1
Papers at Meetings . . . . .	2
Reports . . . . .	2

#### Technology of Reactor Fuels and Structural Materials

Journal Articles . . . . .	3
Reports . . . . .	4

#### General Physics

Journal Articles . . . . .	5
Papers at Meetings . . . . .	8
Reports . . . . .	10

#### Chemistry

Journal Articles . . . . .	11
Reports . . . . .	15

#### Reactor Physics

Journal Articles . . . . .	16
Papers at Meetings . . . . .	17
Reports . . . . .	17
Books . . . . .	18

#### Radiation Applications

Journal Articles . . . . .	19
Papers at Meetings . . . . .	20
Reports . . . . .	20

#### Health Physics

Journal Articles . . . . .	21
Papers at Meetings . . . . .	22
Reports . . . . .	22
Books . . . . .	23

#### Engineering in General

Journal Articles . . . . .	24
Reports . . . . .	24

#### Other Fields

Journal Articles . . . . .	25
Reports . . . . .	25
Books . . . . .	25

#### Patents and Utility Models

Foreign Patents . . . . .	26
Japanese Patents . . . . .	28
Japanese Utility Models . . . . .	30
List of Journals . . . . .	32

## Reactor Engineering

### Journal Articles

- 66-J-018 Numerical analysis of overall radiation interchange configuration factor [E]  
Okamoto Y., *Bull. JSME (Japan)*, **9** (No. 33), 138~143 (1966)
- 66-J-019 Temperature distribution and efficiency of a plate and annular fin with constant thickness [E]  
Okamoto Y., *Bull. JSME (Japan)*, **9** (No. 33), 143~150 (1966)
- 66-J-020 Thermal performances of radiative and connective plate-fins with mutual irradiation [E]  
Okamoto Y., *Bull. JSME (Japan)*, **9** (No. 33), 150~165 (1966)
- 66-J-021 High temperature gas loop and experiments of finned fuel-elements [E]  
Okamoto Y., Negoya S., *Bull. JSME (Japan)*, **9** (No. 33), 166~174 (1966)
- 65-J-202 Operating experience of JPDR [Review] [J]  
Suguri S., *Electric Power (Kyoto)*, **49** (No. 11), 112~120 (1965)
- 66-J-065 Measurement of steam void fraction in JPDR [J]  
Yusa H.\*, Uga T., Mochizuki K., *et al.*, *Hitachi Hyoron (Tokyo)*, **48** (No. 11), 1269~1274 (1966)
- 65-J-583 Measurement of the steam void fraction in the Japan Power Demonstration Reactor (JPDR) [E]  
Uga T., Yusa H.\*, Mochizuki K., *Hitachi Rev. (Tokyo)*, **15** (No. 12), 468~474 (1966)
- 65-J-052 Instruments used in shielding experiments [J]  
Furuta Y., *J. Atomic Energy Soc. Japan*, **7** (No. 5), 260~262 (1965)
- 65-J-286 Present status of the development of fast reactor in France [Review] [J]  
Nomoto S., An S., *J. Atomic Energy Soc. Japan*, **7** (No. 10), 570~578 (1965)
- 66-J-046 Effect of orifice pressure drop on burn-out heat flux in parallel channels [J]  
Hori M., Ouchi Y., *J. Atomic Energy Soc. Japan*, **8** (No. 10), 536~539 (1966)
- 65-J-036 Study of irradiation embrittlement of nuclear structural steels [J]  
Fujimura T., *et al.*, *J. Iron Steel Inst. Japan*, **51** (No. 13), 2328~2335 (1965)
- 65-J-253 High-temperature liquid-metal heat transfer [Review] [J]  
Hori M., *J. Japan Soc. Mech. Engrs.*, **68** (No. 563), 1665~1671 (1965)
- 65-J-051 Irradiation embrittlement of nuclear structural steels and its welds [J]  
Fujimura T., *J. Japan Weld. Soc.*, **34** (No. 10), 1057~1063 (1965)
- 65-J-553 Liquid sodium technology development - I (Test loops, purification methods and corrosion tests) [E]  
Furukawa K., Yamamoto K., Nihei I., *et al.*, *J. Nucl. Sci. Technol. (Tokyo)*, **3** (No. 12), 501~515 (1966)
- 65-J-325 Derivation of BWR core dynamics models and analysis of JPDR core transient tests [E]  
Mochizuki K., *J. Nucl. Sci. Technol. (Tokyo)*, **2** (No. 10), 377~390 (1965)

- 65-J-139 Reactor development and the roll of liquid metals (1), (2) [J]  
 Furukawa K., *Metals (Tokyo)*, (No. 9), 66~70; (No. 10), 91~94 (1965)
- 64-J-458 Dose buildup factors of plane parallel barriers for <sup>60</sup>Co plane monodirectional source [E]  
 Furuta Y., Tsuruo A., Miyasaka S., *Nucl. Sci. Engng.*, **25**, 85~92 (1966)
- 66-J-250 High-temperature liquid-metal technology [Review] [J]  
 Hori M., *Sci. Mach. (Tokyo)*, **18** (No. 12), 1441~1447 (1966)
- 65-J-382 Pressure drop of vertical airwater flow—A comparative study [J]  
 Shiba M., Yamazaki Y., *Trans. Japan Soc. Mech. Engrs.*, **32** (No. 240), 1231~1238 (1966)
- 65-J-326 Purity control of liquid sodium coolant [J]  
 Furukawa K., Nihei I., Iguchi Y., *Yoyuen, Japan*, **8** (No. 4), (1965)

#### Papers at Meetings

- 66-P-016 Sodium technology in Japan [E]  
 Kawahara S., Furukawa K., Sako K., London Conf. on fast breeder reactors, 5B/2 (1966. 5)
- 66-P-445 Construction and operating experience of JPDR [E]  
 Suguri S., Mochizuki K., IAEA study group on problems and prospects of nuclear power applications in developing countries, (Manila 24~28 October 1966)

#### Reports

- 66-R-001 Characteristic tests of experimental facilities of JPR-4 [J]  
 Shindo M. (*ed*), JAERI 1120, p.p. 95 (1966)
- 66-R-002 Progress report of shielding investigations in Japan [E]  
 Shindo M. (*ed*), JAERI 4038, p.p. 32 (1966)

## Technology of Reactor Fuels and Structural Materials

### Journal Articles

- 65-J-128 Ceramic fuels - I, II [Review] [J]  
Ueda R., *Bull. Japan Inst. Metals*, **4** (No. 10), 629~635; (No. 11), 703~708 (1965)
- 65-J-335 Vaporization of metallic and ceramic materials [J]  
Naito K., *Bull. Japan Inst. Metals*, **5** (No. 3), 159~172 (1966)
- 64-J-384 Stress in the oxide films of zirconium and Zircaloy-2 during anodic oxidation [J]  
Nomura S., Akutsu C., Saruyama I., *Denki Kagaku (Tokyo)*, **33**, 723~727 (1965)
- 65-J-133 Oxidation kinetics and oxide film breakaway of zirconium and its alloys at high temperatures [E]  
Nomura S., Akutsu C., *Electrochem. Technol.*, **4** (No. 3·4), 93~99 (1966)
- 65-J-126 Heat treatment of dilute U-Fe alloys [J]  
Watanabe H., *J. Atomic Energy Soc. Japan*, **7** (No. 12), 686~693 (1965)
- 65-J-090 Fission gas diffusion loop in Japan Atomic Energy Research Institute [J]  
Kamemoto Y., Shiba K., Handa M., *J. Atomic Energy Soc. Japan*, **8** (No. 1), 3~11 (1966)
- 65-J-168 Ductility of metallic uranium containing carbide inclusions at rolling [J]  
Watanabe H., *J. Atomic Energy Soc. Japan*, **8** (No. 2), 70~75 (1966)
- 65-J-232 The behavior of the crystals and the voids in centrally heated UO<sub>2</sub> green pellets [J]  
Taketani K., *J. Atomic Energy Soc. Japan*, **8** (No. 5), 248~256 (1966)
- 66-J-133 Ultrasonic measurements of elastic modulus of various structural materials at high temperatures [J]  
Sato S., Miyazono S., *J. Japan Soc. Mech. Engrs.*, **69** (No. 572), 1146~1154 (1966)
- 65-J-037 Corrosion of lead in pure water [J]  
Nomura S., Ito N., *J. Japan Inst. Metals*, **29** (No. 10), 985~990 (1965)
- 65-J-147 Diffusion of xenon in metals [E]  
Nagasaki R., Kawasaki T., *J. Nucl. Mater.*, **19** (No. 1), 90~92 (1966)
- 65-J-182 The effect of grain size on the tensile properties of magnox AL 80 [E]  
Nagasaki R., Shiraishi K., *J. Nucl. Sci. Technol. (Tokyo)*, **2** (No. 9), 369~374 (1965)
- 65-J-181 Irradiation effect on the tensile properties of magnox AL 80 [E]  
Nagasaki R., Shiraishi K., *J. Nucl. Sci. Technol. (Tokyo)*, **2** (No. 10), 416~420 (1965)
- 65-J-189 Fatigue behavior of magnox AL 80 and irradiation effect on fatigue properties [E]  
Nagasaki R., Shiraishi K., *J. Nucl. Sci. Technol. (Tokyo)*, **2** (No. 11), 450~456 (1965)
- 65-J-206 Behavior of tritium in aluminium-lithium alloys [E]  
Shiraishi K., Nagasaki R., *J. Nucl. Sci. Technol. (Tokyo)*, **2** (No. 12), 499~505 (1965)

- 65-J-380 Metallographic observations creep deformation of magnox AL 80 [E]  
Nagasaki R., Shiraishi K., *J. Nucl. Sci. Technol. (Tokyo)*, **3** (No. 1), 32~40 (1966)
- 66-J-123 Studies on embrittlement of steels by means of hardness measurements [J]  
Oku T., Sato S., *J. Soc. Mater. Sci., Japan*, **15** (No. 155), 547~554 (1966)
- 65-J-235 The detection of embrittlement in steels by means of hardness measurements [E]  
Oku T., Sato S., Fujimura T., *Nucl. Structl. Engng.*, **2**, 282~292 (1965)

### Reports

- 66-R-003 Corrosion of zircaloy-2 and -4 in high temperature and high pressure boiling water and steam [J]  
Nomura S., *et al.*, JAERI 1116, p.p. 11 (1966)
- 66-R-004 Fission gas release loop [J]  
Kamemoto Y., *et al.*, JAERI 1121, p.p. 42 (1966)
- 66-R-005 Plutonium handling techniques, especially in French laboratories [J]  
Tsujino T., JAERI 4036, p.p. 42 (1966)
- 66-R-006 Swelling of metallic uranium [J]  
JAERI 4037, p.p. 14 (1966)

## General Physics

## Journal Articles

- 65-J-373 Ion temperature measurement of a streaming He plasma by a double probe method [E]  
Kawashima N., *Appl. Phys. Letters*, **7** (No. 12), 324~325 (1965)
- 64-J-480 Nonequilibrium ionization of the working gases for MHD generators [J]  
Hiramoto T., *Bull. Inst. Space Aeronaut. Sci., Univ. Tokyo*, **1**, A16~A23 (1965)
- 65-J-376 Ion cyclotron resonance heating of an inhomogeneous plasma column [E]  
Tanaka M., *IPPJ (Nagoya)* **37**, 32 (1965)
- 64-J-496 Registration of fission fragment track on solid surface [E]  
Kikuchi T., *Japan. J. Appl. Phys.*, **4** (No. 5), 386~387 (1965)
- 65-J-212 Phase transition in  $\text{NaNO}_2$  at D. C. bias field [E]  
Gesi K., *Japan. J. Appl. Phys.*, **4** (No. 10), 818 (1965)
- 65-J-080 Choice of collimators for neutron diffraction [E]  
Sakamoto M., Kunitomi N., Motohashi H., *et al.*, *Japan. J. Appl. Phys.*, **4** (No. 11), 911~914 (1965)
- 35-J-501 Fission fragment damage in epitaxial film of uranium dioxide [E]  
Nasu S., Shiozawa K., Kikuchi T., *Japan. J. Appl. Phys.*, **5** (No. 3), 248 (1966)
- 66-J-055 Propagation of low-frequency waves in an inhomogeneous plasma [E]  
Tanaka M., *Japan. J. Appl. Phys.*, **5** (No. 6), 547~553 (1966)
- 66-J-087 Application of different orthonormal expansion methods to neutron measurements I (Analysis of spectra) [E]  
Ryufuku H., *Japan. J. Appl. Phys.*, **5** (No. 10), 903~909 (1966)
- 66-J-102 Application of different orthonormal expansion methods to neutron measurements II (Estimation of does equivalent rates) [E]  
Ryufuku H., *Japan. J. Appl. Phys.*, **5** (No. 10), 910~913 (1966)
- 66-J-103 Application of different orthonormal expansion methods to neutron measurement • III (Actual measurements of spectra and does equivalent rates) [E]  
Ryufuku H., Tatsuta H., Shirofani T., *Japan. J. Appl. Phys.*, **5** (No. 10), 914~917 (1966)
- 66-J-295 Magnet susceptibilities of cubic  $\text{UO}_{2+x}$  at high temperature [E]  
Nasu S., *Japan. J. Appl. Phys.*, **5** (No. 11), 1001~1007 (1966)
- 66-J-086 Sensitivity of a paraffin-moderated  $\text{BF}_3$  proportional counter [E]  
Ryufuku H., Tatsvta H., Shirofani T., *Japan. J. Appl. Phys.*, **5** (No. 11), 1039~1046 (1966)
- 66-J-259 Measurements of flow velocities in an MHD channel [E]  
Shirakata H., Yano S., Matsunaga S., *et al.*, *Japan. J. Appl. Phys.*, **5** (No. 11), 1107~1113 (1966)

- 66-J-085 The status of controlled nuclear fusion research [J]  
Mori S., *J. Atomic Energy Soc. Japan*, **8** (No. 8), 431~443 (1966)
- 65-J-551 Optical study of X-ray irradiation effect on the phase transition in triglycine sulfate and diglycine nitrate [E]  
Sato Y., *J. Chem. Phys.*, **45** (No. 1), 275~282 (1966)
- 65-J-072 Laboratory experiment on the disturbance of environmental conditions by presence of sounding rockets [E]  
Kawashima N., *J. Geophys. Res.*, **70** (No. 13), 3203~3210 (1965)
- 65-J-573 Prospective thermonuclear fusion reactor and its problems [J]  
Mori S., *J. Inst. Elect. Engrs. Japan*, **85** (No. 7), 1126~1128 (1965)
- 66-J-033 Electron microscope observations of gas bubbles in neutron irradiated aluminum-lithium alloys [E]  
Shiraishi K., Murata T., *J. Nucl. Sci. Technol. (Tokyo)*, **3** (No. 11), 466~472 (1966)
- 64-J-203 Study on  $U_4O_9$ , part I; An anomaly of the heat capacity near the room temperature [E]  
Naito K., Goto K.\*, *J. Phys. Chem. Solids*, **26**, 1673~1677 (1965)
- 64-J-204 Study on  $U_4O_9$ , part II; Magnetic susceptibility of  $U_4O_9$  [E]  
Naito K., Nomura S., Goto K.\*, *J. Phys. Chem. Solids*, **26**, 1679~1684 (1965)
- 65-J-106 Neutron irradiation effects of electrical properties in glassy carbon [E]  
Kikuchi T., Shimada T.\*, *J. Phys. Soc. Japan*, **20** (No. 7), 1288~1290 (1965)
- 65-J-081 Scattering of long wavelength neutrons by precipitations in  $Al_{99.5}Cu_{0.5}$  alloys [E]  
Sakamoto M., Kunitomi N., *J. Phys. Soc. Japan*, **20** (No. 9), 1723 (1965)
- 65-J-070 Phenomenological theory of the phase transitions of  $NaNO_2$  [E]  
Gesi K., *J. Phys. Soc. Japan*, **20** (No. 10), 1764~1772 (1965)
- 65-J-069 Effect of hydrostatic pressure on the phase transition in  $NaNO_2$  [E]  
Gesi K., Ozawa K., Takagi Y., *J. Phys. Soc. Japan*, **20** (No. 10), 1773~1777 (1965)
- 65-J-062 Enhancements in the electron temperature in nonequilibrium-Ar plasmas seeded with Na [E]  
Hiramoto T., Yano S., Matsunaga S., *et al.*, *J. Phys. Soc. Japan*, **20** (No. 10), 1910~1920 (1965)
- 65-J-178 On the motion of the  $NH_4^+$  ion phase I of the ammonium halides [E]  
Sato Y., *J. Phys. Soc. Japan*, **20** (No. 12), 2304~2305 (1965)
- 65-J-392 Nuclear magnetic resonance in ferroelectric sodium nitrite [E]  
Betsuyaku H., *J. Phys. Soc. Japan*, **21** (No. 1), 187 (1966)
- 65-J-412 Alloy hardening of Cu-Si solid solution at 4.2°K [E]  
Kamata K., *J. Phys. Soc. Japan*, **21** (No. 2), 406~407 (1966)
- 65-J-411 Stress relaxation experiment on  $\alpha$ -Cu-Al single crystals at low temperatures [E]  
Kamata K., *J. Phys. Soc. Japan*, **21** (No. 3), 553 (1966)

- 65-J-565 Mössbauer effect studies of the 46.48-keV level of  $^{183}\text{W}$  [E]  
Shikazono N., Takekoshi H., Shoji T., *J. Phys. Soc. Japan*, **21** (No. 5), 829~833 (1966)
- 65-J-377 Optical studies on electrolytically colored  $\text{CaF}_2$  crystals [E]  
Kubo K., *J. Phys. Soc. Japan*, **21** (No. 6), 1046~1053 (1966)
- 66-J-132 Effect of proton-bombardment on  $\text{CaF}_2$  crystals [E]  
Kubo K., *J. Phys. Soc. Japan*, **21** (No. 7), 1300~1303 (1966)
- 66-J-202 Dislocation networks formed by electrolysis in NaF crystal [E]  
Kubo K., *J. Phys. Soc. Japan*, **21** (No. 10), 2095~2096 (1966)
- 66-J-263 Etching of proton-bombarded NaF crystal [E]  
Kubo K., *J. Phys. Soc. Japan*, **21** (No. 11), 2411 (1966)
- 65-J-117 Spectroscopic measurements of impurities in the plasma stream • I [J]  
Inoue K., Mori S., Tanaka M., *Kakuyugo Kenkyu (Nagoya)*, **14** (No. 5), 510~520 (1965)
- 65-J-237 Ion temperature measurement of a streaming plasma by a double probe method [J]  
Kawashima N., *Kakuyugo Kenkyu (Nagoya)*, **15** (No. 4), 413~419 (1965)
- 66-J-415 High-speed plasma flow in a cusped magnetic field [J]  
Tanaka M., *Kakuyugo Kenkyu (Nagoya)*, **18** (No. 1), 1~11 (1966)
- 65-J-077 Directional anisotropy in the characteristics of theorganic-crystal scintillators • II [E]  
Tsukada K., Kikuchi S., Miyagawa Y., *Nucl. Instrum. Methods*, **37** (No. 1), 69~76 (1965)
- 65-J-118 A 5.5 MeV ion buncher of Moblay type [E]  
Tsukada K., Tanaka S., Maruyama M., *et al.*, *Nucl. Instrum. Methods*, **39** (No. 2), 249~255 (1966)
- 64-J-435 Studies of excitation cross sections of (n, n' $\gamma$ ) reactions [E]  
Nishimura K., Okano K., Kikuchi S., *Nucl. Phys.*, **70**, 421~448 (1965)
- 65-J-574 Shell-model calculation for  $^{212}\text{Po}$  [E]  
Glendenning N. K.\*, Harada K., *Nucl. Phys.*, **72**, 481~508 (1965)
- 65-J-337 Energy dependence of the nuclear level density below the neutron binding energy [E]  
Tsukada K., Tanaka S., Maruyama M., *et al.*, *Nucl. Phys.*, **78**, 369~384 (1966)
- 65-J-458 Average level width of the compound nucleus [E]  
Tsukada K., Lee T. J.\*, *Nucl. Phys.*, **83**, 274~288 (1966)
- 65-J-584 Cross sections and isomer ratios for the  $^{88}\text{Sr} (^3\text{He}, p)^{90\text{m},90\text{g}}\text{Y}$  reaction [E]  
Riley C.\*, Ueno K., Linder B.\*, *Nucl. Phys.*, **83**, 364 (1966)
- 65-J-384 Experiments on the plasma flow past bodies in a magnetic field [E]  
Kawashima N., Mori S., *Phys. Fluids*, **9** (No. 4), 700~704 (1966)
- 65-J-333 Zero-phonon lines in neutron irradiated MgO crystals [E]  
Kazumata Y., Ozawa K., Nakagawa M., *Phys. Letters*, **19** (No. 7), 529~530 (1965)

- 65-J-359 Effect of pressure on the magnetic transition point manganese telluride [E]  
Ozawa K., Anzai S., Hamaguchi Y., *Phys. Letters*, **20** (No. 2), 132~133 (1966)
- 65-J-560 The F center in calcium fluoride [E]  
Ozawa K., Kamikawa Y.\*, Kikuchi A., *et al.*, *Phys. Letters*, **21** (No. 2), 126~128 (1966)
- 65-J-371 Optical absorption band grown in thermally bleached neutron-irradiated lithium fluoride [E]  
Kamikawa Y.\*, Ozawa K., Kazumata Y., *Phys. Stat. Sol.*, **14**, 223 (1966)
- 65-J-334 Optical absorption of LiF crystals irradiated with neutrons at liquid nitrogen temperature [E]  
Kamikawa Y.\*, Ozawa K., Kazumata Y., *Phys. Stat. Sol.* **14**, 435 (1966)
- 66-J-008 Zero-phonon lines of color centers in LiF and NaF [E]  
Kazumata Y., Kamikawa Y.\*, Ozawa K., *Phys. Stat. Sol.*, **17**, 131~138 (1966)
- 66-J-009 New infrared absorption in neutron-irradiated lithium fluoride [E]  
Ozawa K., Kamikawa Y.\*, Kazumata Y., *Phys. Stat. Sol.*, **17**, 645~655 (1966)
- 66-J-007 Effect of pressure on the  $\alpha$ -transition point of iron monosulphide [E]  
Ozawa K., Anzai S., *Phys. Stat. Sol.*, **17**, 697~900 (1966)
- 65-J-360 Alloy hardening in  $\alpha$ -Cu-Al single crystals at low temperature [E]  
Kamata K., *Trans. Japan Inst. Metals*, **7** (No. 1), 15~22 (1966)

**Papers at meetings**

- 65-P-596 Nuclear data for fast breeding-reactor [J]  
Nozawa M., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 1~2 (1966)
- 65-P-597 Methods of neutron detection and review of (n, n') experiments [J]  
Tanaka S., *Proc. Seminar Fast-Neutron Cross Section (1965)*, JAERI 1102, 5~12 (1966)
- 65-P-598 Experiments on (n, n' $\gamma$ ) reactions (1) [J]  
Okano K., *Proc. Seminar Fast-Neutron Cross Section (1965)*, JAERI 1102, 12~21 (1966)
- 65-P-599 Experiments on (n, n' $\gamma$ ) reactions (2) [J]  
Kikuchi S., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 22~25 (1966)
- 65-P-600 Inelastic scattering of fast neutrons leaving continuum region of the final states [J]  
Murayama M., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 35~43 (1966)
- 65-P-601 Strength function in resonance region [J]  
Fuketa T., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 69~74 (1966)
- 65-P-602 Doppler effect in neutron resonance [J]  
Asami T., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 75~78 (1966)
- 65-P-603 Spontaneous fission of  $^{238}\text{U}$  [J]  
Ishimori T., *Proc. Seminar Fast-Neutron Cross Sections (1965)*, JAERI 1102, 95~97 (1966)

- 66-P-660 Some remarks on the optical potentials for low energy neutrons [J]  
Igarashi S., *et al.*, Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 1~5 (1967)
- 66-P-661 Measurement of the neutron resonance parameters and review of the slow neutron time-of-flight experiments [J]  
Nakajima Y., Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 20~30 (1967)
- 66-P-662 Parameters for the 0.098 eV resonance in samarium-149 [J]  
Asami T., Ideno K., Okamoto K.,  
Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 30~32 (1967)
- 66-P-663 Neutron total cross sections and strength functions in the keV region [J]  
Nishimura K., Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 36~45 (1967)
- 66-P-664 On prompt neutrons  $\bar{\nu}(M)$  in fission [J]  
Takekoshi E., Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 55~60 (1967)
- 66-P-665 Effects of fission products on burn-up calculations of the fast reactor [J]  
Katsuragi S., Yoshida H., Tone T.,  
Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 60~63 (1963)
- 66-P-666 Survey of fission cross-section data of plutonium [J]  
Igarashi S., *et al.*, Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 69~101 (1967)
- 66-P-667 Some aspects on the present status of the plutonium neutron data [J]  
Ohno Y., Proc. 2nd Seminar Fast-Neutron Cross Sections (1966), JAERI 1126, 101~102 (1967)
- 65-P-604 Reactor physics and thermal neutron scattering [J]  
Takahashi H., Proc. Conf. Inelastic Scattering Neutrons (1965), JAERI 1113, 13~26 (1966)
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- 65-J-579 Specific influence of temperature on  $\gamma$ -ray radiation-induced polymerization of ethylene [E]  
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- 66-J-149 The kinetics of heterogeneous mutual radiation grafting [E]  
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- 66-J-116 Use of krypton-85 radiation source for chemical reaction in liquid phase [J]  
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- 64-J-453 Free radical concentration in irradiated bacterial spores [E]  
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- 65-J-372 A method of pulse height weighting using the discrimination bias modulation [E]  
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- 65-J-231 Relationship between ingestion, excretion and accumulation of fallout cesium-137 in man on a long-term scale [E]  
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- 66-J-077 Practice of radioactive decontamination [J]  
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- 65-J-587 Radiation control methods at plutonium laboratory in JAERI [J]  
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- 65-J-588 Derivation of the working limits of the skin surface contamination [J]  
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- 66-J-099 A practical method for evaluating the neutron dose equivalent rate [E]  
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- 66-J-119 Chromium and manganese in Japanese diet [E]  
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- 65-J-251 Present status and problems on radioactive waste management in Japan [J]  
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- 65-J-203 On Greening's treatment of saturation characteristics of parallel-plate ionization chambers [E]  
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- 65-J-268 Contain of  $^{125}\text{Sb}$  in atmosphere and soil [J]  
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- 65-J-228 Effect of stable cesium on the retention of radioactive cesium in rats and rabbits [J]  
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- 66-J-052 Effect of pH of solution on the contaminability by radioisotopes to the skin [E]  
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- 64-P-070 Diffusion phenomena in coastal areas [E]  
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- 66-R-023 Graphic aid to obtain concentration of materials released from nuclear plant to the environment (based on the English method) [J]  
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- 65-R-143 Comparison of the methods of personnel-monitoring dosimetry practised in nuclear [J]  
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- 65-B-100 Treatment practices of low and intermediate level radioactive wastes at the Japan Atomic [E]  
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Level Radioactive Wastes (IAEA), p. 207~222 (1966)

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- 66-J-030 A FET preamplifier for semiconductor [J]  
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- 64-J-291 Study of wettability · II (wettability of Ag-Cu alloy) [J]  
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- 65-J-336 Prosimy measurement on the X-ray radiography [J]  
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- 65-J-252 Gamma ray pulse dosimeter [E]  
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- 66-J-038 Euratom information project and international cooperation of information [J]  
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- 65-J-589 Lifeness of scientific literature [J]  
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- 65-R-145 A user's manual for JRR-4 experimental facilities [J]  
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- 65-B-590 Radiation heat transfer [J]  
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## Patents and Utility Models

### Foreign Patent

#### French Patents

Pat-F-31	Brazing alloy on carbonic materials-metals bonding Fujimura T., Ando Y.*, <i>et al.</i> ,	No. 1404075
Pat-F-32	Method of separating a dispersed phase from a mixed-phase fluid system by electromagnetic force Fujimura T., Hori M., Ouchi Y., <i>et al.</i>	No. 1409003
Pat-F-33	Circuit arrangements for flattening an energy response of a scintillation counter in bias modulation of a crest discriminator Moriuchi S.,	No. 1412881
Pat-F-34	System for AC operation of an ionizachamber Amano N.,	No. 1418587
Pat-F-35	Time analyzers for counting-rate change measurements Amano N., Sasaki H.,	No. 1392106
Pat-F-36	Process for preparing nuclear fuel elements of dispersed-in-graphite type Ishihara T., Honda T.,	No. 1433348
Pat-F-37	Process for reprocessing burning uranium fuel Kamemoto Y., Yamagishi S.,	No. 1446640
Pat-F-38	Process of preparing chlorinated hydrocarbon Danno A., Tsuchihashi G.,	No. 1447624
Pat-F-39	Method and apparatus for alternating current to direct current conversion utilizing a liquid metal Hori M.,	No. 1426036
Pat-F-40	Electric furnace having a heating element of carbon or graphite for producing temperatures under high pressures Sato S.,	No. 1449969
Pat-F-41	Process for preparing porous carbon bodies of any desired shape with improved physical and chemical properties Ishihara T., Honda T.,	No. 1435819
Pat-F-42	Failures of nuclear elements Tone H.,	No. 1450227
Pat-F-43	Apparatus for measuring plasma density Kawashima N.,	No. 1448833
Pat-F-44	Method and apparatus for promoting a chemical reaction by ionizing reaction Kasamatsu T.,	No. 1466821

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Pat-US-3	Division circuit Amano N., Wakayama N.,	No. 3274381
Pat-US-4	Magneto-hydrodynamic generating system Yano S., Hiramoto T.,	No. 3283183
Pat-US-5	System for converting binary numbers into decimal numbers Kinbara S.,	No. 3296610
Pat-US-6	Comparing and selecting circuit for digital numbers Kinbara S.,	No. 3293603
Pat-US-7	Improvement in heat transfer heat exchanging tube Okamoto Y., Namatame K., Negoya S., <i>et al.</i> ,	No. 3295599
Pat-US-8	Fuel element for high temperature and high power density nuclear reactor Sugimoto E., Tachibana A., <i>et al.</i> ,	No. 3291696

**British Patents**

Pat-Brit- 7	Method for the inhibition of radiation damage to the reprocessing solvent TBP Yamamoto Y., Ishihara T., Tsujino T.,	No. 1000798
Pat-Brit- 8	Evaporation tube Torikai K.,	No. 990762
Pat-Brit- 9	Process for preparing spherical oxides by means of emulsion aggregation Yamazaki Y., Yoshida K.,	No. 997314
Pat-Brit-10	Process for synthesizing phenol from benzene Danno A., Hotta H., <i>et al.</i> ,	No. 999447
Pat-Brit-11	Improvement in heat transfer heat exchanging tube Okamoto Y., Namatame K., Negoya S., <i>et al.</i> ,	No. 1001630
Pat-Brit-12	Division circuit Amano N., Wakayama N.,	No. 1003433
Pat-Brit-13	An alternation current magneto-hydrodynamic generator Yano S., Matsunaga S.,	No. 1009714
Pat-Brit-14	Process for preparing P-32 in a high specific activity free from P-33 Shibata N., Tanaka K.,	No. 1015285

- Pat-Brit-15 Method of reinforcing graphite article by depositing fused metal  
Fujimura T., Ando Y.\*, No. 996859
- Pat-Brit-16 System for measuring the period of a nuclear reactor using frequency conversion or period conversion.  
Amano N., Furukawa Y., No. 1020756
- Pat-Brit-17 A magnetic amplifier for servo use  
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- Pat-Brit-18 Magnetohydrodynamic generating system  
Yano S., Hiramoto T., No. 1018261
- Pat-Brit-19 Process for disposing solid radioactive waste  
Sugimoto S., No. 1035330
- Pat-Brit-20 Process for separating metals by use of the gradient multistage extraction method  
Ishimori T., Akatsu J., *et al.*, No. 1031194

#### German Patents

- Pat-G-2 System for measuring the period of a nuclear reactor using frequency conversion or period conversion  
Amano N., Furukawa Y., No. 1205206
- Pat-G-3 Process for preparing Cs-132 of radiochemically high purity  
Tanaka K., Kuroyanagi T., *et al.*, No. 1208421
- Pat-G-4 Method of reinforcing graphite article by depositing fused metal  
Fujimura T., Ando Y.\*, No. 1218631
- Pat-G-5 Method for direct recovery of plutonium from irradiated nuclear fuel  
Ishihara T., Tsujino T., No. 1218423
- Pat-G-6 Process for synthesizing phenol from benzene  
Danno A., Hotta H., *et al.*, No. 1222070

#### Japanese Patents

- Pat-J-1 Method for continuously removing volatile fission products  
Nishibori E., Yajima S., No. 290370
- Pat-J-35 Shielded container for handling, and taking out, radioactive materials  
Sugimoto S., No. 424258
- Pat-J-40 System for measuring time intervals  
Amano N., Furukawa T., No. 425158
- Pat-J-48 Charge and discharge device of nuclear fuel balls  
Morishima A., No. 433968

Pat-J-64	Transport delay unit Amano N., Hara M.,	No. 444770
Pat-J-69	Purification method of molten metal by electro-magnetic force Hori M., Fujimura T.,	No. 447845
Pat-J-70	Dividing circuit Amano N., Wakayama N.,	No. 451646
Pat-J-71	Inhibition of radiation damage to the organic moderators and coolants Ishihara T., Tsujino T., Ohwada K.,	No. 452187
Pat-J-74	Inhibition of radiation damage to the reprocessing solvent TBP Ishihara T., Tsujino T.,	No. 454251
Pat-J-75	Fuel element for high temperature and high power density nuclear reactor Sugimoto E., Morishima A., Yasukawa S., <i>et al.</i> ,	No. 454244
Pat-J-78	MHD hall generator Matsunaga S.,	No. 456408
Pat-J-79	Pulse type dosimeter Furuta Y., Kinbara S.,	No. 457960
Pat-J-80	Detecting method of failed diaphragm of diaphragm compressor Yatsurugi T., Okajima M.,	No. 458062
Pat-J-81	A. C. current to D. C. voltage conversion system Amano N., Wakayama N.,	No. 459178
Pat-J-82	The preparation method of electropolishing sample for microscope Sasaki Y., <i>et al.</i> ,	No. 459187
Pat-J-83	Multi-stage winding-type gas filter Sugimoto S.,	No. 460306
Pat-J-84	The spherical currentmeter Fukuda M.,	No. 459952
Pat-J-90	Apparatus to convert decimal digital-input to the corresponding logarithmic analog-output Wakayama N., Furukawa T.,	No. 465868
Pat-J-91	System for converting binary numbers into decimal numbers Kinbara S.,	No. 467092
Pat-J-92	Pulse integrating circuit Kinbara S.,	No. 469118
Pat-J-94	Radiation induced polymerization of ethylene by means of new method to take out product Danno A., Iizuka S.*,	No. 470213

- Pat-J- 96 Method of manufacturing ingots and other castings by electromagnetic force  
Hori M., No. 473944
- Pat-J- 97 Variable conductance circuit  
Wakayama N., No. 474289
- Pat-J- 98 Improvement in a Giles' gas recoil neutron spectrometer  
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- Pat-J- 99 A time delay device for correlators using binary noise  
Miida J., Furukawa T., No. 475088
- Pat-J-100 Magnetic modulator by use of transistor detector  
Kawaguchi C., Ara K., No. 477143
- Pat-J-101 Error protection circuits for function generator  
Izume A., No. 479084
- Pat-J-102 Process for synthesizing phenol directly from benzene  
Hotta H., Suzuki N., No. 482273
- Pat-J-105 System for A. C. operation of an ionization chamber  
Amano N., No. 484103
- Pat-J-106 Liquid metal boiling apparatus by electromagnetic force  
Torikai K., *et al.*, No. 485609
- Pat-J-107 Time analyzer for counting-rate change measurement  
Amano N., *et al.*, No. 456586
- Pat-J-108 Facility for filtration decontamination of radioactive gaseous wastes  
Sugimoto S., Mori S., No. 488338
- Pat-J-109 Inter-locking device for locking a double door as for an air-lock wall  
Takase M., Kimura M., No. 488363

#### Japanese Utility Models

- UM-J- 52 Portable type high  $\gamma$  radiation survey meter  
Hitaka T., Fukuda S., Seki M., No. 758875
- UM-J- 59 Fitting structure of natural uranium fuel rod  
Kakihara K., Yatsurugi T., No. 763152
- UM-J- 72 Cleaning method of air filter  
Murakami M., No. 454748
- UM-J- 73 Protection of radio active materials by permanent magnetic rubber sheet  
Murakami M., No. 777854

UM-J- 77	Shielding mechanism of master slave manipulator Murakami M., Hagiya H.,	No. 779962
UM-J- 85	Remote balance-automatic door Motojima K., Yamamoto T.,	No. 783935
UM-J- 86	Remote balance-sample setter Motojima K., Yamamoto T.,	No. 783936
UM-J- 87	Remote balance Motojima K., Yamamoto T.,	No. 783937
UM-J- 88	Micro-space measuring equipment for measure the space of reactor fuel plats Ishibashi A., Sato K.,	No. 790904
UM-J- 93	Survey meter attached to measuring rule Arai M.,	No. 795849
UM-J- 95	Multi-variable calculation plate with graduated rotor Kadokawa M.,	No. 801104
UM-J-103	Triggring circuit for multivibrator Kinbara S.,	No. 810191

List of journals carrying the JAERI papers and their abbreviations shown in bold-type letters

- Acta crystallographica**  
**Acta haematologica japonica**  
**Acta metallurgica**  
**Analysis and Instruments (Tokyo)**  
**Analytical Chemistry**  
**Analytica chimica acta**  
**Applied Physics Letters**  
**Architectural World (Tokyo)**  
**Atompraxis**
- Biochimica et biophysica acta**  
**Bulletin of Automatic Control Division (Tokyo)**  
**Bulletin of the Chemical Society of Japan**  
**Bulletin of the Institute of Space and Aeronautical Science, University of Tokyo**  
**Bulletin of the Japan Institute of Metals**  
**Bulletin of JSME (Japan)**  
**Buturi (Tokyo)**
- Carbon**  
**Carbons (Tokyo)**  
**Chemical Engineering, Japan**  
**Chemical Factory (Tokyo)**  
**Chemical Industry (Tokyo)**  
**Chemistry (Kyoto)**  
**Chemistry and Chemical Industry, Japan**  
**Chemistry of High Polymers (Tokyo)**  
**Coal Tar (Tokyo)**  
**Communications. Association for Computing Machinery**  
**Comptes Rendus**
- Denki Kagaku (Tokyo)**  
**Discussions of the Faraday Society**  
**Dokumenteisyon Kenkyu (Tokyo)**
- Electric Power (Kyoto)**  
**Electrochemical Technology**  
**Electronician (Tokyo)**  
**Engan Kaiyo Kenkyu Note (Japan)**
- Food Irradiation, Japan**
- Genshikaku Kenkyu (Tokyo)**  
**Geochimica et cosmochemica acta**
- Health Physics**  
**High Polymers, Japan**  
**The Hitachi Hyoron (Tokyo)**
- Hitachi Review (Tokyo)**  
**Hoden Kenkyu (Tokyo)**
- Industrial Water (Tokyo)**  
**Information & Documentation (Tokyo)**  
**Information Process, Japan**  
**International Journal of Applied Radiation and Isotopes**  
**IPPJ (Nagoya)**  
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- Japan Analyst**  
**Japanese Journal of Applied Physics**  
**Japanese Journal of Clinical Pathology**  
**The Japanese Journal of Genetics**  
**Japanese Journal of Medical Science and Biology**  
**Journal of the American Chemical Society**  
**Journal of Applied Physics**  
**Journal of Applied Polymer Science**  
**Journal of the Atomic Energy Society of Japan**  
**Journal of the Balneological Society of Japan**  
**Journal of Chemical Physics**  
**Journal of the Chemical Society of Japan, Industrial Chemistry Section**  
**Journal of the Chemical Society of Japan, Pure Chemical Section**  
**Journal de Chimie Physique**  
**Journal of Colloid Science**  
**Journal of Crystallography Society of Japan**  
**Journal of the Electrochemical Society of Japan**  
**Journal of Electronmicroscopy (Tokyo)**  
**Journal of Geophysical Research**  
**Journal of Inorganic Chemistry**  
**Journal of Inorganic and Nuclear Chemistry**  
**JICST (Tokyo)**  
**The Journal of the Institute of Electrical Communication Engineers of Japan**  
**Journal of the Institute of Electrical Engineers of Japan**  
**Journal of the Iron and Steel Institute of Japan**  
**Journal of the Japan Boiler Association**  
**Journal of Japanese Chemistry**  
**Journal of the Japan Health Physics Society**  
**Journal of Japan Institute of Metals**  
**Journal of the Japan Society of Mechanical Engineers**  
**Journal of the Japan Society of Powder Metallurgy**  
**Journal of the Japan Welding Society**  
**Journal of Macromolecular Chemistry**  
**Journal of Nuclear Energy**  
**Journal of Nuclear Materials**  
**Journal of Nuclear Science and Technology (Tokyo)**

- Journal of the **Oceanographical Society of Japan**  
 Journal de **Physique**  
 Journal of **Physical Chemistry**  
 The Journal of **Physics and Chemistry of Solids**  
 Journal of the **Physical Society of Japan**  
 Journal of **Polymer Science**  
 Journal of **Radiation Research (Japan)**  
 Journal of the **Science of Soil and Manure, Japan**  
 Journal of the **Society of Materials Science, Japan**  
 The Journal of the **Society of Organic Synthetic Chemistry, Japan**  
 Journal of the **Spectroscopical Society of Japan**  
 Journal of **Waseda Electrotechnical Society (Tokyo)**  
 Journal of **Water and Waste (Tokyo)**
- Kakuyugo Kenkyu (Nagoya)**  
**Koatsu Gas (Tokyo)**
- Light Metals (Tokyo)**  
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- Mass Spectroscopy (Tokyo)**  
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**Memories of the Institute of High Speed Mechanics, Tohoku University**  
**Metals (Tokyo)**  
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**Mitsubishi Denki Laboratory Reports (Japan)**  
**Molecular Physics**
- Nature**  
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**Nuclear Physics**  
**Nuclear Science and Engineering**  
**Nuclear Structural Engineering**  
**Nucleonics**  
**Nukleonik**
- Oyo Buturi (Tokyo)**
- Petroleum Refiner**  
**Philosophical Magazine**  
**Physics in Medicine and Biology**  
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**Review of Physical Chemistry of Japan**  
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- Science of Light (Tokyo)**  
**Science of Machine (Tokyo)**  
**Soil Science and Plant Nutrition (Tokyo)**  
**Soil and Plant Food (Tokyo)**  
**Spectrochimica acta**
- Talanta**  
**Telecommunications (Japan)**  
**Transactions of the Architectural Institute of Japan**  
**Transactions of the Faraday Society**  
**Transactions of the Japan Institute of Metals**  
**Transactions of the Japan Society of Mechanical Engineers**
- Water Purification and Liquid Wastes Treatment (Osaka)**
- Yoyuen, Japan**
- Zairyo Kagaku, Japan**