

Publication of S. Kubono in 2003

Editorship:

- Editor of European Physical Journal Section A (Hadrons and Nuclei)
- The Proceedings of the 7th International Symposium on Nuclei in the Cosmos(NIC7),
Fuji-Yoshida, 2002
 - : Nucl. Phys. A718 (2003).
 - eds. S. Kubono, T. Kajino, I. Tanihata, and K. Nomoto
- Perspectives in Heavy Ion Physics, the 4th Italy-Japan Symposium,
: World Scientific Publishing Company (Singapore), 2003.
 - eds. K. Yoshida, S. Kubono, I. Tanihata, and C. Signorini
- The International Symposium on Physics of Unstable Nuclei (ISPUN02)
 - : Nucl. Phys. A722 (2003).
 - eds. D.T. Khoa, N.D. Dang and S. Kubono

Original Papers:

- 1) Determination of the Subthreshold State Contribution in $^{13}C(\alpha, n)^{16}O$, the Main Neutron-Source Reaction for the *s*-Process
 - : Phys. Rev. Lett. 90 (2003) 062501-4.
 - S. Kubono, K. Abe, S. Kato, T. Teranishi, M. Kurokawa, X. Liu, N. Imai, K. Kumagai, P. Strasser, M. H. Tanaka, Y. Fuchi, C. S. Lee, Y. K. Kwon, L. Lee, J. H. Ha, and Y. K. Kim
- 2) Study of Resonance States in ^{12}N Using a Radioactive Ion Beam of ^{11}C
 - : Phys. Lett. B556 (2003) 27-32.
 - T. Teranishi, S. Kubono, S. Shimoura, M. Notani, Y. Yanagisawa, S. Michimasa, K.Ue, H.Iwasaki, M. Kurokawa, Y. Satou, T. Morikawa, A. Saito, H. Baba, J.H. Lee, C.S. Lee, Zs.Fulop, and S. Kato
- 3) The $^{21}Na(p, \gamma)^{22}Mg$ Reaction and Oxygen-Neon Novae
 - : Phys. Rev. Lett. 90 (2003) 162501-4, and Phys. Rev. Lett. 90 (2003) 229902.
 - S. Bishop, R. E. Azuma, L. Buchmann, A. A. Chen, M. L. Chatterjee, J. M. D'Auria, S. Engel, D. Gigliotti, U. Greife, M. Hernanz, D. Hunter, A. Hussein, D. Hutcheon, C. Jewett, J. José, J. King, S. Kubono, A. M. Laird, M. Lamey, R. Lewis, W. Liu, S. Michimasa, A. Olin, D. Ottewell, P. D. Parker, J. G. Rogers,

F. Strieder, and C. Wrede

- 4) Isomeric 0^+ State in ^{12}Be
: Phys. Lett. B560 (2003) 31-36.
S. Shimoura, A. Saito, T. Minemura, Y. U. Matsuyama, H. Baba, H. Akiyoshi, N. Aoi, T. Gomi, Y. Higurashi, K. Ieki, N. Imai, N. Iwasa, H. Iwasaki, S. Kanno, S. Kubono, M. Kunibu, S. Michimasa, T. Motobayashi, T. Nakamura, H. Sakurai, M. Serata, E. Takeshita, S. Takeuchi, T. Teranishi, K. Ue, K. Yamada, Y. Yanagisawa, M. Ishihara, and N. Itagaki
- 5) In-Beam γ Spectroscopy of ^{34}Si with Deuteron Inelastic Scattering Using Reverse Kinematics
: Phys. Rev. C67 (2003) 064315-4.
N. Iwasa, T. Motobayashi, H. Sakurai, H. Akiyoshi, Y. Ando, N. Aoi, H. Baba, N. Fukuda, Z. Fülöp, U. Futakami, T. Gomi, Y. Higurashi, K. Ieki, H. Iwasaki, T. Kubo, S. Kubono, H. Kinugawa, H. Kumagai, M. Kunibu, S. Michimasa, T. Minemura, H. Murakami, K. Sagara, A. Saito, S. Shimoura, S. Takeuchi, Y. Yanagisawa, K. Yoneda, and M. Ishihara
- 6) Study of the Unbound ^{11}N Nucleus by the $(^{3}\text{He}, ^{6}\text{He})$ Reaction
: Phys. Rev. C67 (2003) 064601-8.
V. Guimaraes, S. Kubono, F.C. Barker, M. Hosaka, S.C. Jeong, I. Katayama, T. Miyachi, T. Nomura, M.H. Tanaka, Y. Fuchi, H. Kawashima, S. Kato, C.C. Yun, K. Ito, H. Orihara, T. Terakawa, T. Kishida, Y. Pu, S. Hamada, M. Hirai, and H. Miyatake
- 7) Decoupling of Valence Neutrons from the Core in ^{16}C
: Phys. Lett. B 586 (2004) 34 – 40.
Z. Elekes, Zs. Dombrádi, A. Krasznahorkay, H. Baba, M. Csatlós, L. Csige, N. Fukuda, Zs. Fülöp, Z. Gácsi, J. Gulyás, N. Iwasa, H. Kinugawa, S. Kubono, M. Kurokawa, X. Liu, S. Michimasa, T. Minemura, T. Motobayashi, A. Ozawa, A. Saito, S. Shimoura, S. Takeuchi, I. Tanihata, P. Thirolf, Y. Yanagisawa, and K. Yoshida

Conference/Workshop Proceedings:

- 1) Nuclear Astrophysics Project with a New Low-Energy RIB Separator CRIB – Study of a Critical Stellar Reaction $^{15}\text{O}(\alpha, \gamma)^{19}\text{Ne}$
: Proc. of the International Symposium on Origin of Matter and Evolution of Galaxies

- eds. T. Kajino, S. Kubono, K. Nomoto, and I. Tanihata, World Scientific, 2003,
p. 171 -178
- S. Kubono, S. Michimasa, T. Teranishi, Y. Yanagisawa, Zs. Fülöp, X. Liu, K. Kumagai,
K. Abe, C.C. Yun, S. Watanabe, N. Yamazaki, Y. Ohshiro, M. Kurokawa, P. Strasser,
K.I. Hahn, T. Kishida, N. Imai, S. Kato, Y. Fuchi, and M.H. Tanaka
- 2) Results of $^{21}\text{Na} + \text{p}$ Experiments at ISAC
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata
 and K. Nomoto, Nucl. Phys. A718 (2003) 119c – 126c. (invited)
 R.E. Azuma, S. Bishop, L. Buchmann, M.L. Chatterjee, A.A. Chen, J.M. D'Auria,
 T. Davinson, S. Engel, B.R. Fulton, D. Gigliotti, U. Greife, D. Groombridge, D. Hunter,
 A. Hussein, D. Hutcheon, C. Jewett, J.D. King, N. Khan, S. Kubono, A.M. Laird, M. Lamey,
 R. Lewis, L. Ling, W. Liu, S. Michimasa, A.S. Murphy, A. Olin, D. Ottewell, P. Parker,
 J. Pearson, I. Roberts, A. Robinson, J.G. Rogers, G. Roy, C. Ruiz, F. Sarazin, A.C. Shotter,
 H. Sprenger, F. Strieder, P. Walden, P.J. Woods and C. Wrede
- 3) Determination of the Sub-Threshold Contribution in the $^{13}\text{C}(\alpha, n)^{16}\text{O}$ Reaction
 for the Neutrons of s-Process
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata
 and K. Nomoto, Nucl. Phys. A718 (2003) 189c – 192c.
 S. Kato, K. Abe, S. Kubono, T. Teranishi, M. Kurokawa, X. Liu, P. Strasser,
 N. Imai, K. Kumagai, C.S. Lee, Y.K. Kwon, C. Lee, J.H. Ha, Y.K. Kim,
 M.H. Tanaka and Y. Fuchi
- 4) Experimental Studies Using a Low-Energy RI Beam Separator at CNS
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata
 and K. Nomoto, Nucl. Phys. A718 (2003) 207c – 213c. (invited)
 T. Teranishi, S. Kubono, S. Shimoura, M. Notani, Y. Yanagisawa, S. Michimasa,
 K. Ue, H. Iwasaki, M. Kurokawa, Y. Satou, T. Morikawa, A. Saito, H. Baba,
 J.H. Lee, C.S. Lee, Zs. Fülöp and S. Kato
- 5) Nuclear Astrophysics Studies at DRAGON: the $^{21}\text{Na}(p, \gamma)^{22}\text{Mg}$ Reaction and
 Oxygen–Neon Novae
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata
 and K. Nomoto, Nucl. Phys. A718 (2003) 263c – 268c.
 S. Bishop, R. Azuma, L. Buchmann, A.A. Chen, M.L. Chatterjee, J.M. D'Auria,
 S. Engel, D. Gigliotti, U. Greife, D. Hunter, A. Hussein, D. Hutcheon, C. Jewett,
 J. King, S. Kubono, M. Lamey, R. Lewis, W. Liu, S. Michimasa, A. Olin,
 D. Ottewell, P.D. Parker, J. Rogers and C. Wrede
- 6) Study of the $^{22}\text{Mg}(p, \gamma)^{23}\text{Al}$ Reaction with the Coulomb-Dissociation Method

- : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata and K. Nomoto, Nucl. Phys. A718 (2003) 508c – 509c.
- T. Gomi, T. Motobayashi, K. Yoneda, S. Konno, N. Aoi, Y. Ando, H. Baba, K. Demichi, Zs. Fülöp, U. Futakami, H. Hasegawa, Y. Higurashi, K. Ieki, N. Imai, N. Iwasa, H. Iwasaki, T. Kubo, S. Kubono, M. Kunibu, Y.U. Matsuyama, S. Michimasa, T. Minemura, H. Murakami, T. Nakamura, A. Saito, H. Sakurai, M. Serata, S. Shimoura, T. Sugimoto, E. Takeshita, K. Ue, K. Yamada, Y. Yanagisawa, A. Yoshida and M. Ishihara
- 7) Study on the $^{21}\text{Na}(p, \gamma)^{22}\text{Mg}$ Stellar Reaction by the (p,t) Reaction
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata and K. Nomoto, Nucl. Phys. A718 (2003) 581c- 583c.
 S. Michimasa, S. Kubono, S.H. Park, T. Teranishi, Y. Yanagisawa, N. Imai, Zs. Fülöp, X. Liu, T. Minemurar, C.C. Yun, J.M. D'Auria and K.P. Jackson
- 8) The Half-Life of ^{148}Gd
 : Proc. Int. Symp. Nuclei in the Cosmos VII, eds. S. Kubono, T. Kajino, I. Tanihata and K. Nomoto, Nucl. Phys. A718 (2003) 688c- 690c.
 Zs. Fülöp, L. Bartha, Gy. Gyürky, E. Somorjai, S. Kubono, H. Kudo and D. Kaji
- 9) Low-Energy Nuclear Reaction Studies with RI Beams in Nuclear Astrophysics
 : Proc. the International Symposium on Physics of Unstable Nuclei, Halong Bay, Vietnam, eds. D.T. Khoa, N.D. Dang, and S. Kubono, Nucl. Phys. A722 (2003) 17c – 23c.
 S. Kubono, T. Teranishi, and S. Kato
- 10) Study of resonance states using a low-energy RI beam separator at CNS
 : Proc. the 17th International Nuclear Physics Divisional Conference of the European Physics Society, ed. N. Auerbach et al., Nucl.Phys.A719 (2003) 253c-256c
 T. Teranishia, S. Kubono, S. Shimoura, M. Notani, Y. Yanagisawa, S. Michimasa, K. Ue, H. Iwasaki, M. Kurokawa, Y. Satou, T. Morikawa, A. Saito, H. Baba, J. H. Lee, C. S. Lee, Zs. Fülöp and S. Kato

Lectures;

- 1) Lecture on Nucleosynthesis and the Universe,
 Public Lecture of Basic Sciences, Hosei University, November 21, 2003.
- 2) Lecture on Study of Stellar Reactions with Low-Energy RI Beams
 The 2nd CNS International Summer School (CISS03), September 16 - 20, 2003

Talks and presentations;

- 1) Experimental Study of nuclear reactions under explosive phenomena in the Universe,
: Workshop on Photo-Induced Reactions, March 18 – 19, 2004, Kansai JAERI,
Kizu, Kyoto.
S. Kubono
- 2) Low-Energy Radioactive-Ion Beam Separator at CNS and Resonance Scattering
Experiments
Tours Symposium on Nuclear Physics V, Tours, France 26-29 August 2003
T. Teranishi, S. Kubono, JJ. He, M. Notani, T. Fukuchi, S. Michimasa,
S. Shimoura, S. Nishimura, M. Nishimura, Y. Yanagisawa, M. Kurokawa,
Y. Wakabayashi, N. Hokoiwa, Y. Gono, T. Morikawa, A. Odahara,
H. Ishiyama, Y.X. Watanabe, T. Hashimoto, T. Ishikawa, M.H. Tanaka,
H. Miyatake, J.Y. Moon, J.H. Lee, J.C. Kim, C.S. Lee, V. Guimaraes,
R.F. Lihitenthaler, H. Baba, A. Saito, K. Sato, T. Kawamura, S. Kato,
H. Iwasaki, K. Ue, Y. Satou, and Z. Fulop
- 3) Elastic Resonance Scattering of Mg^{+p}
Origin of Matter and Evolution of the Galaxies, 17-19 November, 2003 RIKEN,
Wako, Saitama, Japan
T. Teranishi, S. Kubono, JJ. He, M. Notani, T. Fukuchi, S. Michimasa,
S. Shimoura, S. Nishimura, M. Nishimura,
Y. Wakabayashi, N. Hokoiwa, Y. Gono, A. Odahara,
H. Ishiyama, Y.X. Watanabe, T. Hashimoto, T. Ishikawa, M.H. Tanaka,
H. Miyatake, J.Y. Moon, J.C. Kim, C.S. Lee, V. Guimaraes,
R.F. Lihitenthaler, H. Baba, K. Sato, T. Kawamura, and S. Kato
- 4) Development of Unstable Nuclear Beam N^{17} to Search for High-Spin Isomers in $N = 51$ Isotones
International Symposium on 'A New Era of Nuclear Structure Physics (NENS03)', Niigata,
Japan, Nov. 2003
A. Odahara, Y. Gono, Y. Wakabayashi, N. Hokoiwa, M. Kibe, T. Fukuchi, T. Teranishi,
S. Kubono, M. Notani, S. Michimasa, J.J. He, S. Shimoura, E. Ideguchi, Y. Yanagisawa,
H. Watanabe, T. Kishida, S. Nishimura, M. Nishimura, H. Baba, H. Iwasaki, J.Y. Moon,
S. Kato and H. Sagawa

- 5) Gamma-Ray Spectroscopy by Secondary Fusion Reactions using CRIB
 CNS-RIKEN Joint Symposium on ‘Frontier of gamma-ray spectroscopy and its application’, Saitama, Japan, March 2004
 A. Odahara, Y. Gono, Y. Wakabayashi, T. Fukuchi, N. Hokoiwa, M. Kibe, T. Teranishi, S. Kubono, M. Notani, Y. Yanagisawa, S. Michimasa, J.J. He, H. Iwasaki, S. Shimoura, H. Watanabe, T. Kishida, E. Ideguchi, H. Baba, S. Nishimura, M. Nishimura, J.Y. Moon, S. Kato and H. Sagawa
- 6) Direct measurement of the astrophysical reaction $^{14}\text{O}(\alpha, p) ^{17}\text{F}$,
 The Sixth International Conference on Radioactive Nuclear Beams 6 ([RNB6](#)), Argonne, Illinois, U.S.A., September 22-26, 2003, the [proceeding](#) will be published in Nucl. Phys. A.
 M. Notani, S. Kubono, T. Teranishi, Y. Yanagisawa, S. Michimasa, K. Ue, J.J. He, H. Iwasaki, H. Baba, M. Tamaki, T. Minemura, S. Shimoura, N. Hokoiwa, Y. Wakabayashi, T. Sasaki, T. Fukuchi, A. Odahara, Y. Gono, Zs. Fülöp, E.K. Lee, K.I. Hahn, J.Y. Moon, C.C. Yun, J.H. Lee, C.S. Lee, and S. Kato
- 7) Direct measurement of the astrophysical reaction $^{14}\text{O}(\alpha, p) ^{17}\text{F}$,
 Origin of Matter and Evolution of the Galaxies ([OMEG03](#)), RIKEN, Wako, Saitama, Japan, November 17-19, 2003, the [proceeding](#) will be published in World Scientific.
 M. Notani, S. Kubono, T. Teranishi, S. Michimasa, K. Ue, J.J. He, M. Tamaki, S. Shimoura, Y. Yanagisawa, T. Minemura, H. Iwasaki, H. Baba, N. Hokoiwa, Y. Wakabayashi, T. Sasaki, T. Fukuchi, Y. Gono, A. Odahara, Zs. Fülöp, E.K. Lee, K.I. Hahn, J.Y. Moon, C.C. Yun, J.H. Lee, C.S. Lee and S. Kato
- 8) Direct measurement of the astrophysical reaction $^{14}\text{O}(\alpha, p) ^{17}\text{F}$
 The 8th International Conference on Clustering Aspects of Nuclear Structure and Dynamics ([Cluster8](#)), Nara, Japan, November 24-29, 2003, the [proceeding](#) will be published in Nucl. Phys. A.
 M. Notani, S. Kubono, T. Teranishi, Y. Yanagisawa, S. Michimasa, K. Ue, J.J. He, H. Iwasaki, H. Baba, M. Tamaki, T. Minemura, S. Shimoura, N. Hokoiwa, Y. Wakabayashi, T. Sasaki, T. Fukuchi, A. Odahara, Y. Gono, Zs. Fülöp, E.K. Lee, K.I. Hahn, J.Y. Moon, C.C. Yun, J.H. Lee, C.S. Lee, and S. Kato
- 9) Study of proton resonant states of astrophysical interest in ^{23}Al using RI beams at

CNS

The Fifth Japan China Joint Nuclear Physics Symposium (JCNP2004), Mar. 7th, 2004,
Kyushu University, Japan. (To be published)

J. J. He, S. Kubono, T. Teranishi M. Notani, H. Baba, S. Nishimura, J. Y. Moon,
M. Nishimura, S. Michimasa, H. Iwasaki, Y. Yanagisawa, N. Hokoiwa, M. Kibe,
J. H. Lee, S. Kato, Y. Gono and C. S. Lee