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Current Position

Teaching and Research Assistant, Center for Nuclear Study, The University of Tokyo (2012–present).

Education

Permission to take classes, Kalamazoo Valley Community College, 2000–2002.

Concentration: Computer Programming

Geology Field Course, Western Michigan University, 2001.

B.S. Physics & Astronomy, Beloit College, 2005.

Honors: Departmental Honors: Physics

Minors: Political Science

M.Sc. Physics & Astronomy, McMaster University, 2008.

Thesis: ^{30}S Beam Development and the ^{30}S Waiting Point in Type I X-Ray Bursts

Committee: Alan A. CHEN (chair and supervisor), William E. HARRIS, and James C. WADDINGTON

Ph.D. Candidate, Department of Physics, The University of Tokyo, 2008–2012 (thesis submitted 2014/11).

Thesis: Examination of the $^{30}\text{S}(\alpha, p)$ thermonuclear reaction rate by $^{30}\text{S} + \alpha$ resonant elastic scattering

Thesis Supervisors: Shigeru KUBONO & Hidetoshi YAMAGUCHI

Academic Experience

Beloit College, Department of Physics & Astronomy

Teaching Assistant, Astronomy, Fall 2004.

Honors Term Service Project, J. Patrick POLLEY and Paul STANLEY, Research Detailing the Motivation for Relocating the Thompson Observatory, Fall 2005.

Argonne National Laboratory, Physics Division

Student Undergraduate Laboratory Internship, K. Ernst REHM, Summer 2005.

McMaster University, Department of Physics & Astronomy

Teaching Assistant, Engineering Physics, Fall 2006–Spring 2008.
 Guest Lecturer, Origins of the Elements, Fall 2007.
 Teaching Assistant, Physics Drop-In-Centre, Fall 2007.
 Teaching Assistant, Nuclear Physics, Spring 2008.

The University of Tokyo, Center for Nuclear Study

Research Fellowship, Shigeru KUBONO, October 2008–March 2012.

Honors, Awards, & Fellowships

Eaton Scholarship, Beloit College, 2001–2005.
 Political Science Scholarship, Beloit College, 2003–2005.
 Dean's List, Beloit College, 2002, 2003, 2005.
 Thompson Observatory Prize in Astronomy and Astrophysics, Beloit College, 2005.
 DOE Research Experiences for Undergraduates, Argonne National Laboratory, 2005.
 Graduate Scholarship, McMaster University, 2006–2008.
 Entrance Scholarship, McMaster University, 2006–2008.
 Teaching Assistantship, McMaster University, 2006–2008.
 Tuition Bursary, McMaster University, 2006–2008.
 Japanese Government (Monbukagakusho) Scholarship Student, the University of Tokyo, 2008–2012.

Research*Refereed Articles*

Tang, X. D., Rehm, K. E., Ahmad, I., Brune, C. R., Champagne, A., Greene, J. P., Hecht, A. A., Henderson, D., Janssens, R. V. F., Jiang, C. L., Jisonna, L., Kahl, D., Moore, E. F., Notani, M., Pardo, R. C., Patel, N., Paul, M., Savard, G., Schiffer, J. P., Segel, R. E., Sinha, S., Shumard, B. & Wuosmaa, A. H., New Determination of the Astrophysical S Factor S_{E1} of the $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ Reaction, *Physical Review Letters* **99** (2007) 052502:1–4

Tang, X. D., Rehm, K. E., Ahmad, I., Brune, C. R., Champagne, A., Greene, J. P., Hecht, A., Henderson, D. J., Janssens, R. V. F., Jiang, C. L., Jisonna, L., Kahl, D., Moore, E. F., Notani, M., Pardo, R. C., Patel, N., Paul, M., Savard, G., Schiffer, J. P., Segel, R. E., Sinha, S. & Wuosmaa, A. H., Determination of the E1 component of the low-energy $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ cross section, *Physical Review C* **81** (2010) 045809:1–14

Kim, A., Lee, N. H., Hahn, I. S., Yoo, J. S., Han, M. H., Kubono, S., Yamaguchi, H., Hayakawa, S., Wakabayashi, Y., Binh, D., Hashimoto, H., Kawabata, T., Kahl, D., Kurihara, Y., Kwon, Y. K., Teranishi, T., Kato, S., Komatsubara, T., Guo, B., Bing, G., Liu, W. & Wang, Y., Direct Measurement of the $^{14}\text{O}(\alpha,\alpha)^{14}\text{O}$ Cross Section for Astrophysically Important $^{14}\text{O} + \alpha$ Resonances, *Journal of the Korean Physical Society* **57** (2010) 40–43

Setoodehnia, K., Chen, A. A., Chen, J., Clark, J. A., Deibel, C. M., Geraedts, S. D., Kahl, D., Parker, P. D., Seiler, D. & Wrede, C., Structure of ^{30}S with $^{32}\text{S}(p,t)^{30}\text{S}$ and the thermonuclear $^{29}\text{P}(p,\gamma)^{30}\text{S}$ reaction rate, *Physical Review C* **82** (2010) 022801:1–5

Setoodehnia, K., Chen, A. A., Komatsubara, T., Kubono, S., Binh, D. N., Carpino, J. F., Chen, J., Hashimoto, T., Hayakawa, T., Ishibashi, Y., Ito, Y., Kahl, D., Moriguchi, T., Ooishi, H., Ozawa, A., Shizuma, T., Sugiyama, Y. & Yamaguchi, H., Spins and parities of astrophysically important ^{30}S states from $^{28}\text{Si}(^3\text{He}, n\gamma)^{30}\text{S}$, *Physical Review C* **83** (2011) 018803:1–4

- Yamaguchi, H., Hashimoto, T., Hayakawa, S., Binh, D. N., Kahl, D., Kubono, S., Wakabayashi, Y., Kawabata, T. & Teranishi, T., α resonance structure in ^{11}B studied via resonant scattering of $^7\text{Li}+\alpha$, *Physical Review C* **83** (2011) 034306:1–10
- Chen, J., Chen, A. A., Amádio, G., Cherubini, S., Fujikawa, H., Hayakawa, S., He, J. J., Iwasa, N., Kahl, D., Khiem, L. H., Kubono, S., Kurihara, S., Kwon, Y. K., La Cognata, M., Moon, J. Y., Niikura, M., Nishimura, S., Pearson, J., Pizzone, R. G., Teranishi, T., Togano, Y., Wakabayashi, Y. & Yamaguchi, H., Strong $^{25}\text{Al}+p$ resonances via elastic proton scattering with a radioactive ^{25}Al beam, *Physical Review C* **85** (2012) 015805
- Imai, N., Hirayama, Y., Watanabe, Y. X., Teranishi, T., Hashimoto, T., Hayakawa, S., Ichikawa, Y., Ishiyama, H., Jeong, S. C., Kahl, D., Kubono, S., Miyatake, H., Ueno, H., Yamaguchi, H., Yoneda, K. & Yoshimi, A., Isobaric analog resonances of the $N=21$ nucleus ^{35}Si , *Physical Review C* **85** (2012) 034313
- Jung, H. S., Lee, C. S., Kwon, Y. K., Moon, J. Y., Lee, J. H., Yun, C. C., Kubono, S., Yamaguchi, H., Hashimoto, T., Kahl, D., Hayakawa, S., Choi, S., Kim, M. J., Kim, Y. H., Kim, Y. K., Park, J. S., Kim, E. J., Moon, C.-B., Teranishi, T., Wakabayashi, Y., Iwasa, N., Yamada, T., Togano, Y., Kato, S., Cherubini, S. & Rapisarda, G. G., Experimental study of resonant states in ^{27}P via elastic scattering of $^{26}\text{Si}+p$, *Physical Review C* **85** (2012) 045802
- Chen, J., Chen, A. A., Amthor, A. M., Bazin, D., Becerril, A. D., Gade, A., Galaviz, D., Glasmacher, T., Kahl, D., Lorusso, G., Matos, M., Ouellet, C. V., Pereira, J., Schatz, H., Smith, K., Wales, B., Weisshaar, D. & Zegers, R. G. T., ^{26}Si excited states via one-neutron removal from a ^{27}Si radioactive ion beam, *Physical Review C* **85** (2012) 045809
- Guo, B., Su, J., Li, Z., Wang, Y. B., Yan, S. Q., Li, Y. J., Shu, N. C., Han, Y. L., Bai, X. X., Chen, Y. S., Liu, W. P., Yamaguchi, H., Binh, D. N., Hashimoto, T., Hayakawa, S., Kahl, D., Kubono, S., He, J. J., Hu, J., Xu, S. W., Iwasa, N., Kume, N. & Li, Z., Determination of astrophysical $^{12}\text{N}(p,\gamma)^{13}\text{O}$ reaction rate from the $^2\text{H}(^{12}\text{N}, ^{13}\text{O})n$ reaction and its astrophysical implications, *Physical Review C* **87** (2013) 015803
- Yamaguchi, H., Kahl, D., Wakabayashi, Y., Kubono, S., Hashimoto, T., Hayakawa, S., Kawabata, T., Iwasa, N., Teranishi, T., Kwon, Y. K., Binh, D. N., Khiem, L. H. & Duy, N. N., α -resonance structure in ^{11}C studied via resonant scattering of $^7\text{Be}+\alpha$ and with the $^7\text{Be}(\alpha,p)$ reaction, *Physical Review C* **87** (2013) 034303
- Setoodehnia, K., Chen, A. A., Kahl, D., Komatsubara, T., José, J., Longland, R., Abe, Y., Binh, D. N., Chen, J., Cherubini, S., Clark, J. A., Deibel, C. M., Fukuoka, S., Hashimoto, T., Hayakawa, T., Hendriks, J., Ishibashi, Y., Ito, Y., Kubono, S., Lennard, W. N., Moriguchi, T., Nagae, D., Nishikiori, R., Niwa, T., Ozawa, A., Parker, P. D., Seiler, D., Shizuma, T., Suzuki, H., Wrede, C., Yamaguchi, H. & Yuasa, T., Nuclear structure of ^{30}S and its implications for nucleosynthesis in classical novae, *Physical Review C* **87** (2013) 065801
- He, J. J., Zhang, L. Y., Parikh, A., Xu, S. W., Yamaguchi, H., Kahl, D., Kubono, S., Hu, J., Ma, P., Chen, S. Z., Wakabayashi, Y., Sun, B. H., Wang, H. W., Tian, W. D., Chen, R. F., Guo, B., Hashimoto, T., Togano, Y., Hayakawa, S., Teranishi, T., Iwasa, N., Yamada, T. & Komatsubara, T., The $^{18}\text{Ne}(\alpha,p)^{21}\text{Na}$ breakout reaction in x-ray bursts: Experimental determination of spin-parities for α resonances in ^{22}Mg via resonant elastic scattering of $^{21}\text{Na}+p$, *Physical Review C* **88** (2013) 012801
- Jin, S. J., Wang, Y. B., Su, J., Yan, S. Q., Li, Y. J., Guo, B., Li, Z. H., Zeng, S., Lian, G., Bai, X. X., Liu, W. P., Yamaguchi, H., Kubono, S., Hu, J., Kahl, D., Jung, H. S., Moon, J. Y., Lee, C. S., Teranishi, T., Wang, H. W., Ishiyama, H., Iwasa, N., Komatsubara, T. & Brown, B. A., Resonant scattering of $^{22}\text{Na} + p$ studied by the thick-target inverse-kinematic method, *Physical Review C* **88** (2013) 035801
- Duy, N. N., Kubono, S., Yamaguchi, H., Kahl, D., Wakabayashi, Y., Teranishi, T., Iwasa, N., Kwon, Y. K., Khiem, L. H., Kim, Y. H., Song, J. S., Hu, J. & Ayyad, Y., Low-energy radioactive ion beam production of ^{22}Mg , *Nuclear Instruments and Methods in Physics Research A* **723** (2013) 99–101
- Zhang, L. Y., He, J. J., Parikh, A., Xu, S. W., Yamaguchi, H., Kahl, D., Kubono, S., Mohr, P., Hu, J., Ma, P., Chen, S. Z., Wakabayashi, Y., Wang, H. W., Tian, W. D., Chen, R. F., Guo, B., Hashimoto, T., Togano, Y., Hayakawa, S., Teranishi, T., Iwasa, N., Yamada, T., Komatsubara, T., Zhang, Y. H. & Zhou, X. H., Investigation of the thermonuclear $^{18}\text{Ne}(\alpha,p)^{21}\text{Na}$ reaction rate via resonant elastic scattering of $^{21}\text{Na} + p$, *Physical Review C* **89** (2014) 015804

Hu, J., He, J. J., Parikh, A., Xu, S. W., Yamaguchi, H., Kahl, D., Ma, P., Su, J., Wang, H. W., Nakao, T., Wakabayashi, Y., Teranishi, T., Hahn, K. I., Moon, J. Y., Jung, H. S., Hashimoto, T., Chen, A. A., Irvine, D., Lee, C. S. & Kubono, S., Examination of the role of the $^{14}\text{O}(\alpha, p)^{17}\text{F}$ reaction rate in type-I x-ray bursts, *Physical Review C* **90** (2014) 025803

Imai, N., Mukai, M., Cederkäll, J., Aghai, H., Golubev, P., Johansson, H. T., Kahl, D., Kurcewics, J., Teranishi, T. & Watanabe, Y. X., Isobaric analog resonances of ^{31}Mg and the border of the island of inversion, *Physical Review C* **90** (2014) 011302

Jung, H. S., Lee, C. S., Kwon, Y. K., Moon, J. Y., Lee, J. H., Yun, C. C., Kim, M. J., Hashimoto, T., Yamaguchi, H., Kahl, D., Kubono, S., Wakabayashi, Y., Togano, Y., Choi, S., Kim, Y. H., Kim, Y. K., Park, J. S., Kim, E. J., Moon, C.-B., Teranishi, T., Iwasa, N., Yamada, T., Kato, S., Cherubini, S., Hayakawa, S. & Rapisarda, G. G., Elastic scattering of $^{25}\text{Al}+p$ to explore the resonance structure in ^{26}Si , *Physical Review C* **90** (2014) 035805

Komatsubara, T., Kubono, S., Hayakawa, T., Shizuma, T., Ozawa, A., Ito, Y., Ishibashi, Y., Moriguchi, T., Yamaguchi, H., Kahl, D., Hayakawa, S., Nguyen Binh, D., Chen, A. A., Chen, J., Setoodehnia, K. & Kajino, T., Excited states above the proton threshold in ^{26}Si , *European Physical Journal A* **50** (2014) 136

Mcneice, E., Setoodehnia, K., Singh, B., Abe, Y., Binh, D. N., Chen, A. A., Chen, J., Cherubini, S., Fukuoka, S., Hashimoto, T., Hayakawa, T., Ishibashi, Y., Ito, Y., Kahl, D., Komatsubara, T., Kubono, S., Moriguchi, T., Nagae, D., Nishikiori, R., Niwa, T., Ozawa, A., Shizuma, T., Suzuki, H., Yamaguchi, H. & Yuasa, T., In-beam γ -ray Spectroscopy of ^{30}P via the $^{28}\text{Si}({}^3\text{He}, p\gamma)^{30}\text{P}$ Reaction, *Nuclear Data Sheets* **120** (2014) 88–90

Lee, P., Lee, C. S., Moon, J. Y., Chae, K. Y., Cha, S. M., Yamaguchi, H., Nakao, T., Kahl, D. M., Kubono, S., Cherubini, S., Hayakawa, S. & Signorini, C., Development and performance test of the analysis software for the CRIB active target, *Journal of Korean Physical Society* **66** (2015) 459–464

Edited Works

Stellar Evolution, Nuclear Astrophysics, and Nucleogenesis by A. G. W. Cameron, editor David M. Kahl. Dover Publications, Inc., 2013.

Refereed Conference Proceedings

Chen, J., Chen, A. A., Amadio, G., Bazin, D., Becerril Reyes, A. D., Amthor, A. M., Cherubini, S., Galaviz Redondo, D., Gade, A., Glasmacher, T., Fujikawa, H., Iwasa, N., He, J. J., Hayakawa, S., Kahl, D., Khiem, L. H., Kubono, S., Kurihara, Y., Kwon, Y. K., Lorusso, G., Matos, M., Moon, J. Y., Niikura, M., Nishimura, S., Odahara, A., Ouellet, C. V., Pearson, J., Pereira, J., Pizzone, R. G., Sidoti, A., Schatz, H., Smith, K., Teranishi, T., Togano, Y., Wales, B., Wakabayashi, Y., Yamaguchi, Y. & Zegers, R., Study of astrophysically important states in ^{26}Si with the $p(^{25}\text{Al}, p)^{25}\text{Al}$ elastic scattering, *Proceedings of Science NIC X* (2008) 153:1–5

Setoodehnia, K., Chen, A. A., Clark, J. A., Deibel, C., Kahl, D., Parker, P. D. & Wrede, C., Study of Astrophysically Important Resonant States in ^{30}S by the $^{32}\text{S}(p, t)^{30}\text{S}$ Reaction, *Proceedings of Science NIC X* (2008) 161:1–5

Kahl, D., Chen, A. A., Binh, D. N., Chen, J., Hashimoto, T., Hayakawa, S., Kim, A., Kubono, S., Kurihara, Y., Lee, N. H., Michimasa, S., Nishimura, S., Ouellet, C. V., Setoodehnia, K., Wakabayashi, Y. & Yamaguchi, H., Astrophysical (α, p) cross section technique and ^{30}S RIB Development, *Proceedings of Science NIC X* (2008) 171:1–5

Tang, X., Rehm, K. E., Ahmad, I., Brune, C. R., Champagne, A., Greene, J. P., Hecht, A. A., Henderson, D., Janssens, R. V. F., Jiang, C. L., Jisonna, L., Kahl, D., Moore, E. F., Notani, M., Pardo, R. C., Patel, N., Paul, M., Savard, G., Schiffer, J. P., Segel, R. E., Sinha, S., Shumard, B. & Wuosmaa, A. H., The S_{E1} factor of the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ Reaction and the ^{16}N β -delayed α Decay, *American Institute of Physics Conference Series* **972** (2008) 261–269

Kahl, D., Chen, A. A., Chen, J., Hayakawa, S., Kim, A., Kubono, S., Michimasa, S., Setoodehnia, K., Wakabayashi, Y. & Yamaguchi, H., Radioactive ^{30}S Beam to Study X-Ray Bursts, *Astronomical Society of the Pacific Conference Series* **393** (2008) 219–222

- Yamaguchi, H., Wakabayashi, Y., Hayakawa, S., Binh, D. N., Kahl, D., Kurihara, Y., Kubono, S., Teranishi, T., He, J. J., Kwon, Y. K., Nishimura, S., Togano, Y., Iwasa, N., Niikura, M. & Khiem, L. H., Nuclear Astrophysical studies using low-energy RI beams at CRIB, *American Institute of Physics Conference Series* **1120** (2009) 189–193
- Setoodehnia, K., Chen, A. A., Chen, J., Clark, J. A., Deibel, C., Kahl, D., Lennard, W. N., Parker, P. D. & Wrede, C., Study of astrophysically important resonant states in ^{30}S using the $^{32}\text{S}(p,t)^{30}\text{S}$ reaction, *Journal of Physics Conference Series* **202** (2010) 012042:1–4
- Kahl, D., Chen, A. A., Kubono, S., Binh, D. N., Chen, J., Hashimoto, T., Hayakawa, S., Kaji, D., Kim, A., Kurihara, Y., Lee, N. H., Ohshiro, Y., Nishimura, S., Setoodeh Nia, K., Wakabayashi, Y. & Yamaguchi, H., ^{30}S Beam Development and X-ray Bursts, *American Institute of Physics Conference Series* **1213** (2010) 208–214
- Setoodehnia, K., Chen, A. A., Chen, J., Clark, J. A., Deibel, C. M., Kahl, D., Lennard, W. N., Parker, P. D. & Wrede, C., Study of astrophysically important resonant states in ^{30}S using the $^{32}\text{S}(p,t)^{30}\text{S}$ reaction, *American Institute of Physics Conference Series* **1213** (2010) 235–238
- Setoodehnia, K., Chen, A. A., Chen, J., Clark, J. A., Deibel, C., Kahl, D., Lennard, W. N., Parker, P. D. & Wrede, C., Study of astrophysically important resonant states in ^{30}S using the $^{32}\text{S}(p,t)^{30}\text{S}$ reaction, *European Physical Journal Web of Conferences* **2** (2010) 14005:1–3
- Setoodehnia, K., Chen, A., Chen, J., Clark, J., Deibel, C., Kahl, D., Lennard, W., Parker, P. & Wrede, C., Study of astrophysically important resonant states in ^{30}S using the $^{32}\text{S}(p,t)^{30}\text{S}$ reaction, *Nuclear Physics A* **834** (2010) 205–207
- Chen, J., Chen, A. A., Schatz, H., Kubono, S., Reyes, A. B., Smith, A., Wales, B., Ouellet, C., Kahl, D., Redondo, D. G., Lorusso, G., Lenestour, J., Conca, J. P., Smith, K., Amthor, M., Matos, M., Yamaguchi, H., Iwasa, N., Hayakawa, S., Michimasa, S., Teranishi, T., Kurihara, Y. & Wakabayashi, Y., Study of astrophysically important states in ^{26}Si with the $p(^{27}\text{Si}, ^{26}\text{Si}^*)d$ reaction and the $p(^{25}\text{Al}, p)^{25}\text{Al}$ elastic scattering, *Nuclear Physics A* **834** (2010) 667–669
- Kubono, S., Binh, D. N., Hayakawa, S., Hashimoto, T., Kahl, D. M., Yamaguchi, H., Wakabayashi, Y., Teranishi, T., Iwasa, N., Komatsubara, T., Kato, S. & Khiem, L. H., Nuclear Astrophysics Programs with Low-Energy RI Beams at CRIB, *American Institute of Physics Conference Series* **1224** (2010) 475–481
- Yamaguchi, H., Hashimoto, T., Hayakawa, S., Binh, D. N., Kahl, D. & Kubono, S., Nuclear Astrophysics and Structure Studies Using Low-energy RI Beams at CRIB, *American Institute of Physics Conference Series* **1235** (2010) 247–252
- Hayakawa, S., Kubono, S., Hashimoto, T., Yamaguchi, H., Binh, D. N., Kahl, D. M., Wakabayashi, Y., Iwasa, N., Kume, N., Miura, I., Teranishi, T., He, J. J., Kwon, Y. K., Komatsubara, T., Kato, S. & Wanajo, S., Direct measurement of the $^{11}\text{C}(\alpha, p)^{14}\text{N}$ stellar reaction at CRIB, *American Institute of Physics Conference Series* **1269** (2010) 104–109
- Yamaguchi, H., Hashimoto, T., Hayakawa, S., Binh, D. N., Kahl, D. & Kubono, S., Studies of alpha-induced astrophysical reactions at CRIB, *American Institute of Physics Conference Series* **1269** (2010) 262–267
- Binh, D. N., Kubono, S., Yamaguchi, H., Hayakawa, S., Hashimoto, T., Kahl, D., Teranishi, T., Iwasa, N., Kume, N., Kato, S., Khiem, L. H., Tho, N. T. & Wakabayashi, Y., Direct Measurement of $^{21}\text{Na}+\alpha$ Stellar Reaction, *American Institute of Physics Conference Series* **1269** (2010) 387–389
- Kahl, D., Chen, A. A., Kubono, S., Binh, D. N., Chen, J., Hashimoto, T., Hayakawa, S., Kaji, D., Kim, A., Kurihara, Y., Lee, N. H., Nishimura, S., Ohshiro, Y., Setoodeh Nia, K., Wakabayashi, Y. & Yamaguchi, H., $^{30}\text{S}(\alpha, p)$ in X-Ray Bursts at CRIB, *American Institute of Physics Conference Series* **1269** (2010) 424–426
- Chen, A. A., Setoodehnia, K., Chen, J., Clark, J. A., Deibel, C. M., Geraedts, S. D., Kahl, D., Parker, P. D., Seiler, D. & Wrede, C., Proton-Rich Sulphur and Nucleosynthesis in Classical Novae, *American Institute of Physics Conference Series* **1409** (2011) 63–66
- Kubono, S., Dam, N., Hayakawa, S., Hashimoto, H., Kahl, D., Yamaguchi, H., Wakabayashi, Y., Teranishi, T., Iwasa, N., Komatsubara, T., Kato, S., Chen, A., Cherubini, S., Choi, S., Hahn, I., He, J., Le, H. K., Lee, C., Kwon, Y., Wanajo, S. & Janka, H., Alpha-Cluster Dominance in the αp Process in Explosive Hydrogen Burning,

Progress of Theoretical Physics Supplement **196** (2012) 346–351

Binh, D. N., Kubono, S., Yamaguchi, H., Hayakawa, S., Hashimoto, T., Kahl, D., Teranishi, T., Iwasa, N., Kato, S., Khiem, L. H., Tho, N. T. & Wakabayashi, Y., Measurement of $^{21}\text{Na}(\alpha, p)^{24}\text{Mg}$ stellar reaction using a ^{21}Na RI-beam, *American Institute of Physics Conference Series* **1484** (2012) 25–30

Hashimoto, T., Kubono, S., Yamaguchi, H., Hayakawa, S., Kahl, D. M., Ota, S., Michimasa, S., Tokieda, H., Ishiyama, H., Watanabe, Y. X., Hirayama, Y., Imai, N., Miyatake, H., Jeong, S. C., Yamaguchi, K., Arai, I., Komatsubara, T., Fukuda, T., Mizoi, Y., Das, S. K., Iwasa, N., Yamada, T., Chen, A. A. & He, J. J., Direct measurement of the $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$ reaction, *American Institute of Physics Conference Series* **1484** (2012) 454–456

Hayakawa, S., Kubono, S., Kahl, D., Yamaguchi, H., Binh, D. N., Hashimoto, T., Wakabayashi, Y., He, J. J., Iwasa, N., Kato, S., Komatsubara, T., Kwon, Y. K., Teranishi, T. & Wanajo, S., Direct measurement of the breakout reaction $^{11}\text{C}(\alpha, p)^{14}\text{N}$ in explosive hydrogen-burning process, *American Institute of Physics Conference Series* **1484** (2012) 445–447

He, J. J., Zhang, L. Y., Xu, S. W., Chen, S. Z., Hu, J., Ma, P., Chen, R. F., Yamaguchi, H., Kubono, S., Hashimoto, T., Kahl, D., Hayakawa, S., Wakabayashi, Y., Togano, Y., Wang, H. W., Tian, W. D., Guo, B., Teranishi, T., Iwasa, N., Yamada, T. & Komatsubara, T., Study of resonant scattering of $^{21}\text{Na}+p$ relevant to astrophysical $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$ reaction, *American Institute of Physics Conference Series* **1484** (2012) 240–245

Jung, H. S., Lee, C. S., Kwon, Y. K., Moon, J. Y., Lee, J. H., Yun, C. C., Kubono, S., Yamaguchi, H., Hashimoto, T., Kahl, D., Hayakawa, S., Choi, S., Kim, M. J., Kim, Y. H., Kim, Y. K., Park, J. S., Kim, E. J., Moon, C.-B., Teranishi, T., Wakabayashi, Y., Iwasa, N., Yamada, T., Togano, Y., Kato, S., Cherubini, S. & Rapisarda, G. G., Study of proton resonance structure in ^{27}P via resonant elastic scattering of $^{26}\text{Si}+p$, *American Institute of Physics Conference Series* **1484** (2012) 307–312

Kubono, S., Binh, D. N., Hayakawa, S., Hashimoto, T., Kahl, D. M., Yamaguchi, H., Wakabayashi, Y., Teranishi, T., Iwasa, N., Komatsubara, T., Kato, S., Chen, A., Cherubini, S., Choi, S. H., Hahn, I. S., He, J. J., Khiem, L. H., Lee, C. S., Kwon, Y. K., Wanajo, S. & Janka, H.-T., Experimental challenge to nuclear physics problems in the νp -process, *American Institute of Physics Conference Series* **1484** (2012) 189–196

Kwon, Y. K., Lee, C. S., Jung, H. S., Moon, J. Y., Lee, J. H., Yun, C. C., Kubono, S., Yamaguchi, H., Hashimoto, T., Kahl, D., Hayakawa, S., Choi, S., Kim, M. J., Kim, Y. H., Kim, Y. K., Park, J. S., Kim, E. J., Moon, C.-B., Teranishi, T., Wakabayashi, Y., Iwasa, N., Yamada, T., Togano, Y., Kato, S., Cherubini, S. & Rapisarda, G. G., Measurement of $^{25}\text{Al}+p$ resonant elastic scattering for studying the $^{25}\text{Al}(p, \gamma)^{26}\text{Si}$, *American Institute of Physics Conference Series* **1484** (2012) 365–368

Yamaguchi, H., Kahl, D., Hu, J., Kubono, S., Hayakawa, S. & Hashimoto, T., Alpha-induced reaction studies using low-energy RI beams at CRIB, *American Institute of Physics Conference Series* **1484** (2012) 225–231

Wang, Y. B., Guo, B., Jin, S. J., Li, Z. H., Binh, D. N., Hashimoto, H., Hayakawa, S., He, J. J., Hu, J., Iwasa, N., Kahl, D. M., Kubono, S., Kume, N., Li, E. T., Li, Y. J., Liu, X., Su, J., Xu, S. W., Yamaguchi, H., Yan, S. Q., Zeng, S., Bai, X. X., Lian, G., Wang, B. X. & Liu, W. P., Indirect measurements of reactions in hot p-p chain and CNO cycles, *American Institute of Physics Conference Series* **1484** (2012) 19–24

Hayakawa, S., Kubono, S., Kahl, D., Yamaguchi, H., Binh, D. N., Hashimoto, T., Wakabayashi, Y., He, J. J., Iwasa, N., Kato, S., Komatsubara, T., Kwon, Y. K., Teranishi, T. & Wanajo, S., Direct measurement of the $^{11}\text{C}(\alpha, p)^{14}\text{N}$ reaction at CRIB: A path from pp-chain to CNO, *American Institute of Physics Conference Series* **1498** (2012) 339–343

Jung, H. S., Lee, C. S., Moon, J. Y., Kwon, Y. K., Lee, J. H., Yun, C. C., Kubono, S., Yamaguchi, H. & Kahl, D., Experimental study of resonant states in ^{26}Si and ^{27}P via elastic scattering of $^{25}\text{Al}+p$ and $^{26}\text{Si}+p$, *Proceedings of Science NIC XII* (2012) 200:1–6

Kahl, D., Chen, A. A., Kubono, S., Hashimoto, T., Binh, D. N., Chen, J., Cherubini, S., Duy, N. N., Hayakawa, S., Iwasa, N., Jung, H. S., Kato, S., Kwon, Y. K., Michimasa, S., Nishimura, S., Ota, S., Setoodehnia, K., Teranishi, T., Tokieda, H., Yamada, T., Yamaguchi, H., Yun, C. C. & Zhang, L. Y., Measurement of the $^{30}\text{S} + \alpha$ system for type I X-ray bursts, *Proceedings of Science NIC XII* (2012) 201:1–5

- Komatsubara, T., Ozawa, A., Moriguchi, T., Ito, Y., Itabashi, Y., Abe, Y., Yuasa, T., Hayakawa, T., Shizuma, T., Hara, K., Kubono, S., Yamaguchi, H., Kahl, D., Hayakawa, S., Binh, D. N., Chen, A. A., Chen, J., Setoodehnia, K. & Kajino, T., Study of level structure on ^{26}Si for the astrophysical interest in ^{26}Al production, *Proceedings of Science NIC XII* (2012) 206:1–6
- Zhang, L. Y., He, J. J., Xu, S. W., Yamaguchi, H., Kubono, S., Wakabayashi, Y., Chen, S. Z., Hu, J., Ma, P., Togano, Y., Hashimoto, T., Kahl, D., Teranishi, T., Chen, R. F., Wang, H. W., Tian, W. D., Guo, B., Hayakawa, S., Iwasa, N., Yamada, T. & Komatsubara, T., Experimental Study of the Key $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$ reaction, *Proceedings of Science NIC XII* (2012) 186:1–5
- Yamaguchi, H., Kahl, D., Nakao, T. & Kubono, S., Recent astrophysical studies at the low-energy RI beam separator CRIB, *Proceedings of Science NIC XII* (2012) 244:1–6
- Chen, J., Chen, A. A., Amthor, A. M., Bazin, D., Becerril, A. D., Gade, A., Galaviz, D., Glasmacher, T., Kahl, D., Lorusso, G., Matos, M., Ouellet, C. V., Pereira, J., Schatz, H., Smith, K. M., Wales, B., Weisshaar, D. & Zegers, R. G. T., ^{26}Si Excited States via One-Neutron Removal from ^{27}Si Using Radioactive Beam, *Capture Gamma-Ray Spectroscopy and Related Topics - Proceedings of the Fourteenth International Symposium* (2013) 365–370
- Teranishi, T., Sakaguchi, S., Uesaka, T., Yamaguchi, H., Kubono, S., Hashimoto, T., Hayakawa, S., Kurihara, Y., Bihn, D. N., Kahl, D., Wakabayashi, Y., Khiem, L. H., Cuong, P. V., Watanabe, S. & Goto, A., Resonant scattering experiments with radioactive nuclear beams - Recent results and future plans, *American Institute of Physics Conference Series* **1525** (2013) 552–557
- Kubono, S., Binh, D. N., Hayakawa, S., Hashimoto, H., Kahl, D., Yamaguchi, H., Wakabayashi, Y., Teranishi, T., Iwasa, N., Komatsubara, T., Kato, S., Chen, A., Cherubini, S., Choi, S. H., Hahn, I. S., He, J. J., Khiem, L. H., Lee, C. S., Kwon, Y. K., Wanajo, S. & Janka, H.-T., Role of clusters in nuclear astrophysics with Cluster Nucleosynthesis Diagram (CND), *Journal of Physics Conference Series* **436** (2013) 012071
- Kubono, S., Binh, D. N., Hayakawa, S., Hashimoto, T., Kahl, D. M., Yamaguchi, H., Wakabayashi, Y., Teranishi, T., Iwasa, N., Komatsubara, T., Kato, S., Chen, A., Cherubini, S., Choi, S. H., Hahn, I. S., He, J. J., Khiem, L. H., Lee, C. S., Kwon, Y. K., Wanajo, S. & Janka, H.-T., Experimental challenge to nucleosynthesis in core-collapse supernovae - Very early epoch of type II SNe -, *American Institute of Physics Conference Series* **1533** (2013) 70–77
- Yamaguchi, H., Kahl, D., Nakao, T., Wakabayashi, Y., Kubono, S., Hashimoto, T., Hayakawa, S., Kawabata, T., Iwasa, N., Teranishi, T., Kwon, Y. K., Binh, D. N., Khiem, L. H. & Duy, N. N., Recent developments and research projects at the low-energy RI beam facility CRIB, *Nuclear Instruments and Methods in Physics Research B* **317** (2013) 664–667
- Yoshida, A., Kambara, T., Nakao, A., Uemoto, R., Uno, H., Nagano, A., Yamaguchi, H., Nakao, T., Kahl, D., Yanagisawa, Y., Kameda, D., Ohnishi, T., Fukuda, N. & Kubo, T., Wear diagnostics of industrial material using RI beams of ^7Be and ^{22}Na , *Nuclear Instruments and Methods in Physics Research B* **317** (2013) 785–788
- Yamaguchi, H., Kahl, D., Nakao, T., Wakabayashi, Y., Kubono, S., Hashimoto, T., Hayakawa, S., Kawabata, T., Iwasa, N., Teranishi, T., Kwon, Y. K., Lee, P. S., Binh, D. N., Khiem, L. H. & Duy, N. G., Studies on alpha-induced astrophysical reactions using the low-energy RI beam separator CRIB, *European Physical Journal Web of Conferences*, volume 66 of *European Physical Journal Web of Conferences*, 7027
- Kahl, D., Hashimoto, T., Duy, N. N., Kubono, S., Yamaguchi, H., Binh, D. N., Chen, A. A., Cherubini, S., Hayakawa, S., He, J. J., Ishiyama, H., Iwasa, N., Khiem, L. H., Kwon, Y. K., Michimasa, S., Nakao, T., Ota, S., Teranishi, T., Tokieda, H., Wakabayashi, Y., Yamada, T. & Zhang, L. Y., Active target studies of the αp -process at CRIB, *American Institute of Physics Conference Series*, volume 1594 of *American Institute of Physics Conference Series* (edited by S. Jeong, N. Imai, H. Miyatake & T. Kajino), 163–170
- He, J. J., Hu, J., Zhang, L. Y., Xu, S. W., Parikh, A., Yamaguchi, H., Kahl, D., Ma, P., Chen, S. Z., Su, J., Wakabayashi, Y., Togano, Y., Hayakawa, S., Wang, H. W., Tian, W. D., Chen, R. F., Guo, B., Nakao, T., Teranishi, T., Moon, J. Y., Jung, H. S., Hashimoto, T., Chen, A. A., Irvine, D., Hahn, K. I., Iwasa, N., Yamada, T., Komatsubara, T., Lee, C. S. & Kubono, S., Astrophysics studies relevant to stellar x-ray bursts, *American Institute of Physics Conference Series*, volume 1594 of *American Institute of Physics Conference Series* (edited by S. Jeong, N. Imai, H. Miyatake & T. Kajino), 176–183

Yamaguchi, H., Kahl, D., Nakao, T., Wakabayashi, Y., Kubano, S., Hashimoto, T., Hayakawa, S., Kawabata, T., Iwasa, N., Teranishi, T., Kwon, Y. K., Binh, D. N., Khiem, L. H. & Duy, N. G., Alpha resonant scattering for astrophysical reaction studies, *American Institute of Physics Conference Series*, volume 1594 of *American Institute of Physics Conference Series* (edited by S. Jeong, N. Imai, H. Miyatake & T. Kajino), 220–225

Kubono, S., Yamaguchi, H., Teranishi, T., Yanagisawa, Y., Hayakawa, S., Kahl, D. M., Kwon, Y. K., Hashimoto, T., Wakabayashi, Y., He, J. J., Ohshiro, Y., Watanabe, S., Yamazaki, N., Goto, A., Kase, M., Fukuda, Y. & Muto, H., Low-energy RI beam technology and nuclear clusters in the explosive pp-chain breakout process, *American Institute of Physics Conference Series*, volume 1595 of *American Institute of Physics Conference Series*, 114–121

Yamaguchi, H., Kahl, D., Nakao, T., Wakabayashi, Y., Hashimoto, T., Hayakawa, S., Kawabata, T., Teranishi, T., Kwon, Y. K., Binh, D. N., Khiem, L. H., Duy, N. N., Kubono, S., Suhara, T., Kanada-En'yo, Y., Moon, J. Y., Kim, A., Iwasa, N., Lee, P. S., Chae, K. Y., Cha, S. M., Gwak, M. S., Kim, D. H. & Milman, E., Nuclear clusters studied with alpha resonant scatterings using RI beams at CRIB, *Journal of Physics Conference Series* **569** (2014) 012019

Yamaguchi, H., Kahl, D., Hayakawa, S., Sakaguchi, Y., Nakao, T., Wakabayashi, Y., Hashimoto, T., Teranishi, T., Kubono, S., Cherubini, S., Mazzocco, M., Signorini, C., Gulino, M., Di Pietro, A., Figuera, P., La Cognata, M., Lattuada, M., Spitaleri, C., Torresi, D., Lee, P. S., Lee, C. S., Komatsubara, T., Iwasa, N., Okoda, Y., Pierroutsakou, D., Parascandolo, C., La Commara, M., Strano, E., Boiano, C., Boiano, A., Manea, C., Sánchez-Benítez, A. M., Miyatake, H., Watanabe, Y. X., Ishiyama, H., Jeong, S. C., Imai, N., Hirayama, Y., Kimura, S., Mukai, M., Kim, Y. H., Lin, C. J., Jia, H. M., Yan, L., Yang, Y. Y., Kawabata, T., Kwon, Y. K., Binh, D. N., Khiem, L. H. & Duy, N. N., Studies on Nuclear Astrophysics and Exotic Structure at the Low-Energy RI Beam Facility CRIB, *The Physical Society of Japan Conference Proceedings* **6** (2015) 010011

Imai, N., Mukai, M., Cederkäll, J., Aghai, H., Golubev, P., Johansson, H. T., Kahl, D., Teranishi, T. & Watanabe, Y. X., Quenched Spectroscopic Factors for Low-Lying Positive Parity States in ^{31}Mg , *The Physical Society of Japan Conference Proceedings* **6** (2015) 020005

Sanfilippo, S., Cherubini, S., Hayakawa, S., Di Pietro, A., Figuera, P., Gulino, M., La Cognata, M., Lattuada, M., Spitaleri, C., Yamaguchi, H., Kahl, D., Nakao, T., Kubono, S., Wakabayashi, Y., Hashimoto, T., Iwasa, N., Okoda, Y., Ushio, K., Teranishi, T., Mazzocco, M., Signorini, C., Torresi, D., Moon, J. Y., Komatsubara, T., Lee, P. S., Chae, K. Y. & Gwak, M. S., β -delayed α decay of ^{16}N and the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ cross section at astrophysical energies: A new experimental approach, *American Institute of Physics Conference Series* **1645** (2015) 387–391

Published Abstracts

Kahl, D., Huibregtse, C., Abbott, S., Boatman, E., Candea, E., Johns, S., Marmon, J., Nance, J., Stall, E., Stierna, J. & Warmington, L., Designing a Nuclear Device as a Learning Exercise, *APS Meeting Abstracts* (2005) B1

Hashimoto, T., Kubono, S., Yamaguchi, H., Hayakawa, S., Dam, N. B., Kahl, D., Kawabata, T., Wakabayashi, Y., Lee, N. H., Kim, A., Han, M. H., Yoo, J. S., Hahn, K. I., Kwon, Y. K., Lee, C. S., Teranishi, T., Kato, S., Komatsubara, T., Wang, B. X., Guo, B., Bing, G., Wang, Y. B. & Liu, W. P., Study of the $^{14}\text{O} + \alpha$ reaction at low energy, *APS Meeting Abstracts* (2009) B2

Wakabayashi, Y., Yamaguchi, H., Hashimoto, T., Hayakawa, S., Kurihara, Y., Binh, D. N., Kahl, D., Kubono, S., Nishimura, S., Gono, Y., Suga, M. & Fujita, Y., Beta-decay measurement of ^{46}Cr , *APS Meeting Abstracts* (2009) K3

Binh Dam, N., Yamaguchi, H., Wakabayashi, Y., Hayakawa, S., Hashimoto, T., Kahl, D., Kubono, S., Le, H. K., Nguyen, T. T., Iwasa, N., Kume, N., Kato, S. & Teranishi, T., Direct Measurement of $^{21}\text{Na} + \alpha$ Stellar Reaction, *APS Meeting Abstracts* (2009) L4

Hayakawa, S., Kubono, S., Yamaguchi, H., Hashimoto, T., Binh, D. N., Kahl, D., Wakabayashi, Y., Iwasa, N., Kume, N., Miura, Y., Teranishi, T., He, J. J., Kwon, Y. K., Komatsubara, T., Kato, S. & Wanajo, S., Direct Measurement of the $^{11}\text{C}(\alpha, p)^{14}\text{N}$ Reaction, *APS Meeting Abstracts* (2009) L6

Jung, H. S., Kwon, Y. K., Moon, J. Y., Lee, J. H., Yun, C. C., Lee, C. S., Choi, S., Kim, M. J., Kim, Y. H., Kim, Y. K., Park, J. S., Kim, E. J., Moon, C. B., Kubono, S., Yamaguchi, H., Kahl, D., Teranishi, T., Wakabayashi, Y.,

Iwasa, N., Togano, Y. & Cherubini, S., Measurement of $^{26}\text{Si}+p$ resonant elastic scattering for studying the $^{26}\text{Si}(p,\gamma)^{27}\text{P}$ reaction, *APS Division of Nuclear Physics Meeting Abstracts* (2011) F5

Imai, N., Mukai, M., Cederkall, J., Aghai, H., Golubev, P., Johansson, H., Kahl, D., Kurcewics, J., Teranishi, T. & Watanabe, Y., Small spectroscopic factors of low-lying positive parity states in ^{31}Mg , *APS Division Nuclear Physics Hawaii Meeting* (2014) EB.006

Work In Progress

(Data Analysis or Manuscript Preparation On-going)

Wakabayashi, Y., *et al.* ^{46}Cr β^+ half-life with CRIB, the University of Tokyo, October 2008.

Binh, D. N., *et al.* Direct measurement of $^{21}\text{Na}(\alpha, p)$ in inverse kinematics with CRIB, the University of Tokyo, November 2008.

Hayakawa, S., *et al.* Direct measurement of $^{11}\text{C}(\alpha, p)$ in inverse kinematics with CRIB, the University of Tokyo, June 2009.

Hashimoto, T., *et al.* Direct measurement of $^{18}\text{Ne}(\alpha, p)$ in inverse kinematics with CRIB, the University of Tokyo, June 2010.

Kahl, D., *et al.* Direct measurement of $^{30}\text{S}(\alpha, \alpha)$ and $^{30}\text{S}(\alpha, p)$ in inverse kinematics with CRIB, the University of Tokyo, September 2010

Ngoc, D. N., *et al.* Direct measurement of $^{22}\text{Mg}(\alpha, \alpha)$ and $^{22}\text{Mg}(\alpha, p)$ with active target in inverse kinematics with CRIB, the University of Tokyo, October 2011.

Cherubini, S., *et al.* Low-energy spectrum of the ^{16}N β -delayed α -decay, the University of Tokyo, September 2013.

Signorini, C., *et al.* Near Coulomb Barrier Total Reaction Cross Section of $^8\text{B}+^{208}\text{Pb}$, the University of Tokyo, May 2014.

Yamaguchi, H., *et al.* Exotic linear-cluster structure of ^{14}C via ^{10}Be alpha resonant elastic scattering, the University of Tokyo, May 2015.

Test Experiments Conducted (when no publication is listed above)

Teranishi, T., *et al.* ^{17}Ne radioactive ion beam development at CRIB, the University of Tokyo, March 2009.

Hashimoto, T., *et al.* Gas Electron Multiplier Multi-Sampling and Tracking Proportional Counter test with a ^{11}B beam at the RIKEN Pelletron, January 2010.

Hashimoto, T., *et al.* Gas Electron Multiplier Multi-Sampling and Tracking Proportional Counter test with a ^{16}O beam at the University of Tsukuba Tandem Accelerator Complex, February 2010.

Hashimoto, T., *et al.* Gas Electron Multiplier Multi-Sampling and Tracking Proportional Counter test with a ^4He beam at the RIKEN Pelletron, May 2010.

He, J. J., *et al.* ^{30}P radioactive ion beam development at CRIB, the University of Tokyo, May 2010.

Ishiyama, H., *et al.* ^{44}Ti radioactive ion beam development at CRIB, the University of Tokyo, May & December 2012.

Conferences and Professional Development

Presentations

“Designing a Nuclear Device as a Learning Exercise.” Invited talk at the APS/AAPT/SPS Texas Section Meeting, Stephen F. Austin State University, Nacogdoches, Texas, USA, March 2005.

“Designing a Nuclear Device as a Learning Exercise.” Invited talk at the Annual Student Symposium, Beloit College, Beloit, Wisconsin, USA, April 2005.

“How to Build a Nuclear Bomb.” Invited talk by McMaster Science for Peace / Pugwash Society, McMaster University, Hamilton, Ontario, Canada, March 2007.

“Nuclear Waiting Points and Double Peaked X-Ray Bursts.” Talk at the Astrophysics Journal Club, McMaster University, Hamilton, Ontario, Canada, April 2007.

“Study of $^{25}\text{Al}+p$ resonances using $^{27}\text{Si}(p,d)^{26}\text{Si}^*$ reactions.” Talk at the NSCL User’s Meeting, National Superconducting Cyclotron Laboratory, Michigan State University, Lansing, Michigan, USA, August 2007.

“On the waiting point at $A=30$ in X-Ray Bursts: $^{30}\text{S}(\alpha,p)^{33}\text{Cl}$ with CRIB.” Talk at JINA Frontiers 2007, University of Notre Dame, South Bend, Indiana, USA, August 2007.

“Status of ^{30}S Beam Development at RIKEN for a Future Measurement of $^{30}\text{S}(\alpha,p)^{33}\text{Cl}$ Cross Section.” Talk at the 6th Exotic Beam Physics Summer School, National Superconducting Cyclotron Laboratory, Michigan State University, Lansing, Michigan, USA, August 2007.

“Radioactive ^{30}S Beam to Study XRBs.” Poster at the Frank N. Bash Symposium '07, University of Texas, Austin, Texas, USA, October 2007.

“r-process Enhanced Uranium Stars.” Talk at Astrophysics Journal Club, McMaster University, Hamilton, Ontario, Canada, October 2007.

“ ^{30}S RI Beam Production & XRBs.” Poster at the 10th Symposium on Nuclei in the Cosmos (NIC X), Mackinac Island, Michigan, USA, August 2008.

“ ^{30}S RI Beam Production & XRBs.” Poster at the 7th Exotic Beam Physics Summer School, Argonne National Laboratory, Argonne, Illinois, USA, August 2008.

“ ^{30}S Beam to Study X-Ray Bursts.” Poster at the p-process Workshop, National Astronomical Observatory, Mitaka, Japan, February 2009.

“ ^{30}S Beam Development & X-Ray Bursts.” Talk at the 8th CNS-EFES Summer School, Center for Nuclear Study, the University of Tokyo, Wako, Japan, August 2009.

“ ^{30}S Beam Development & X-Ray Bursts.” Talk at the 5th European Summer School on Experimental Nuclear Astrophysics, Santa Tecla, Italy, September 2009.

“ $^{30}\text{S}(\alpha,p)$ in X-Ray Bursts at CRIB.” Poster at Origins of Matter and Evolution of Galaxies (OMEG10), Research Center for Nuclear Physics, Osaka University, Osaka, Japan, March 2010.

“Isomer Thermalization in Nucleosynthesis.” Invited talk at the Astrophysics Journal Club, McMaster University, Hamilton, Ontario, Canada, July 2010.

“Measurement of the $^{30}\text{S}+\alpha$ system for type I X-ray bursts.” Poster at Nuclei in the Cosmos (NIC XII), Cairns, Australia, August 2012.

“Measurement of the $^{30}\text{S}+\alpha$ system Using an Active Target.” Poster at 16th International Conference on Electromagnetic Isotope Separators and Techniques Related to their Applications (EMIS2012), Matsue, Japan, December 2012.

“Investigation of the $^{18}\text{Ne}(\alpha,p)$ Breakout Reaction in X-Ray Bursts.” Talk at Nuclear Physics in Astrophysics VI, Lisbon, Portugal, May 2013.

“Active Target Studies of the αp -process at CRIB.” Invited talk at Origins of Matter and Evolution of Galaxies (OMEG12), Tsukuba, Japan, November 2013.

“ $^{30}\text{S}+\alpha$ resonant elastic scattering with an active target.” Poster at Advances in Radioactive Isotope Science (ARIS2014), Tokyo, Japan, June 2014.

“ $^{30}\text{S}+\alpha$ resonant elastic scattering with an active target.” Talk at Sicily – East Asia Workshop on Low-Energy Nuclear Physics (SEA), Ortigia, Italy, July 2014.

“ ^{30}S Alpha Resonant Elastic Scattering to Investigate the Astrophysical $^{30}\text{S}(\alpha,p)$ Reaction Rate.” Special

Heavy Ion Discussion Group, Argonne National Laboratory, Argonne, Illinois, USA, June 2015.

“Experimental Investigation of X-ray Bursts via ^{30}S alpha Resonant Elastic Scattering.” Special Seminar, National Superconducting Cyclotron Laboratory, Michigan State University, Lansing, Michigan, USA, June 2015.

“Experimental investigation of the $^{30}\text{S}(\alpha, p)$ thermonuclear reaction in X-ray Bursts.” Talk at Origins of Matter and Evolution of Galaxies (OMEG2015), Beijing, China, June 2015.

Attendance

Argonne RIA Workshop, Monmouth College, Monmouth, Illinois, USA, November 2004.

JINA Frontiers 2005, Michigan State University, Lansing, Michigan, USA, August 2005.

12th Capture Gamma-Ray Spectroscopy Conference, University of Notre Dame, South Bend, Indiana, USA, November 2005.

International Nuclear Physics Conference, Tokyo, Japan, June 2006.

50 Years of Nuclear Astrophysics Conference, California Institute of Technology, Pasadena, California, USA, July 2007.

Canadian Nuclear Association Seminar (selected to attend by McMaster University Dean of Science), Ottawa, Ontario, Canada, February 2008.

JINA School on Nuclear Astrophysics of the Cosmos, Argonne National Laboratory, Argonne, Illinois, USA, July 2008.

νp - & r-process Workshop, RIKEN, Wako, Japan, February 2009.

r-process Nucleosynthesis Workshop, University of Tsukuba, Tsukuba, Japan, March 2009.

9th CNS-EFES Summer School, the University of Tokyo, Wako, Japan, August 2010.

French-Japanese Symposium on Nuclear Structure Problems, FJNSP-LIA & EFES, RIKEN, Wako, Japan, January 2011.

10th CNS Summer School, the University of Tokyo, Wako, Japan, September 2011.

Origins of Matter and Evolution of Galaxies (OMEG11), Center for Nuclear Study / RIKEN, Wako, Japan, November 2011.

11th CNS Summer School, the University of Tokyo, Wako, Japan, August–September 2012.

Nuclear Astrophysics Town Meeting, Detroit, Michigan, USA, October 2012.

12th CNS Summer School, the University of Tokyo, Wako, Japan, August–September 2013.

13th CNS Summer School, the University of Tokyo, Wako, Japan, September 2014.

Computing Expertise

C++ programming

ROOT data analysis framework

GICOSY and MOCADI beam optics and transport modelling