

# KYUNGYUK CHAE

Department of Physics  
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last updated on  
September 11, 2017

## EXPERIENCE

- **Associate Professor**, Department of Physics, Sungkyunkwan University Mar. 2016-Present
- **Assistant Professor**, Department of Physics, Sungkyunkwan University Mar. 2012-Feb. 2016
- **Research Scientist**, Oak Ridge National Laboratory Jan. 2011-Dec. 2011  
Commissioned Fast ion counter utilizing radioactive and stable heavy ion beams.  
Actively participated in the  $^{80}\text{Ge}(d,p)^{81}\text{Ge}$ ,  $^{132}\text{Te}(d,p)^{133}\text{Te}$ ,  $^{128}\text{Sn}(d,p)^{129}\text{Sn}$ ,  $^{126}\text{Sn}(d,p)^{127}\text{Sn}$  reaction measurements performed by the nuclear astrophysics group at the Holifield Radioactive Ion Beam Facility (HRIBF) in Oak Ridge National Laboratory (ORNL).  
Participated in the “Spectroscopic studies close to  $^{100}\text{Sn}$  using neutron knockout reactions” in collaboration with the CEASAR group at the National Superconducting Cyclotron Laboratory (NSCL) at the Michigan State University (MSU).
- **Postdoctoral Research Associate**, Oak Ridge National Laboratory Sep. 2009-Dec. 2010  
Performed the  $^{19}\text{F}(\alpha,p)^{22}\text{Ne}$  reaction measurement using a novel gas target system and a gas recirculation system.  
Analyzed the  $^{24}\text{Mg}(p,^3\text{He})^{22}\text{Na}$  reaction differential cross sections in the DWBA framework to deduce the spin and parity for the levels in  $^{22}\text{Na}$ .  
Leading role in making a tilted electrode gas ionization chamber for high-rate particle identification.  
Actively participated in experiments performed by the nuclear astrophysics group at the HRIBF in ORNL, including the  $^{17}\text{F}(p,p')^{17}\text{F}$ ,  $^{20}\text{Ne}(p,d)^{19}\text{Ne}$ ,  $^{28}\text{Si}(^3\text{He},d)^{29}\text{P}$ ,  $^{26,27}\text{Al}(p,p)^{26,27}\text{Al}$ ,  $^{26,27}\text{Al}(d,d)^{26,27}\text{Al}$ ,  $^7\text{Be}(d,d)^7\text{Be}$ ,  $^{10}\text{Be}(d,p)^{11}\text{B}$  reactions.  
Actively participated in the  $^{84}\text{Se}(p,d)^{83}\text{Se}$  reaction measurement performed by the HiRA group at the National Superconducting Cyclotron Laboratory (NSCL) at the Michigan State University (MSU).
- **Postdoctoral Research Associate**, University of Tennessee at Knoxville Jan. 2007-Aug. 2009  
Measured the  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  and  $^{24}\text{Mg}(p,^3\text{He})^{22}\text{Na}$  reaction differential cross sections to deduce the spin and parity for the levels in  $^{22}\text{Mg}$  and  $^{22}\text{Na}$  using stable proton beam at the HRIBF.  
Leading role in designing the  $^{10}\text{Be}(d,p)^{11}\text{Be}$  reaction measurement setup. Developed GEANT4 simulation to optimize experimental setup.  
Actively participated in experiments performed by the nuclear astrophysics group at the HRIBF, including the  $^{26}\text{Al}(d,p)^{27}\text{Al}$ ,  $^{10}\text{Be}(d,p)^{11}\text{Be}$ ,  $^{26}\text{Al}(p,p)^{26}\text{Al}$ ,  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$ ,  $^{28}\text{Si}(p,t)^{26}\text{Si}$ ,  $^{75}\text{As}(d,p\gamma)^{76}\text{As}$ ,  $^{15}\text{N}(d,p)^{16}\text{N}$ ,  $^{31}\text{P}(p,\alpha)^{28}\text{Si}$ ,  $^{35}\text{Cl}(p,\alpha)^{32}\text{S}$  reactions.  
Actively participated in the  $^{34,46}\text{Ar}(p,d)^{33,45}\text{Ar}$  reaction measurement performed by the HiRA group at the NSCL.
- **Research Assistant**, Oak Ridge National Laboratory Aug. 2003-Dec. 2006  
Measured the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction differential cross section to constrain the interference effects among  $J^\pi=3/2^+$  resonances in  $^{19}\text{Ne}$  system using the radioactive ion beam of  $^{18}\text{F}$ . Analyzed data in the R-Matrix framework.

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Performed the  ${}^7\text{Be}(d,t){}^6\text{Be}$  reaction study for the first time to search for the resonances in the unbound nucleus  ${}^6\text{Be}$  with radioactive  ${}^7\text{Be}$  ion beam.

Actively participated in experiments performed by the nuclear astrophysics group at the HRIBF, including measurements with radioactive ion beams such as  ${}^{130}\text{Sn}(d,p){}^{131}\text{Sn}$ ,  ${}^{132}\text{Sn}(d,p){}^{133}\text{Sn}$ ,  ${}^{18}\text{F}(d,\alpha){}^{15}\text{O}n$ ,  ${}^7\text{Be}(p,\gamma){}^8\text{B}$ ,  ${}^7\text{Be}(p,p){}^7\text{Be}$  and other stable beam experiments such as  ${}^{28}\text{Si}(p,t){}^{26}\text{Si}$ ,  ${}^{17}\text{O}(p,\alpha){}^{14}\text{N}$ ,  ${}^{134}\text{Te}(d,p){}^{135}\text{Te}$  using the ORRUBA and SIDAR silicon detector arrays, gas-filled ionization chamber, Daresbury Recoil Separator at the HRIBF.

Designed a reaction rate generator as a part of Computational Infrastructure for Nuclear Astrophysics using Fortran 90.

- **Research Assistant**, University of Tennessee at Knoxville Jan. 2002-Jul. 2003  
Developed an application for calculating and displaying positions of stars in two interacting galaxies using Java and Java 3D.
- **Military Service**, Ministry of National Defense, Republic of Korea Jan. 1996-Mar. 1998

## EDUCATION

- **University of Tennessee at Knoxville**, TN 37996, USA Aug. 2001-Dec. 2006  
**Ph.D. in Physics**, December 2006 GPA: 3.77  
Dissertation: “Interference effects among  $J^\pi=3/2^+$  resonances in  ${}^{19}\text{Ne}$  system & Searching for resonances in the unbound  ${}^6\text{Be}$  nucleus”  
Advisor: Prof. Michael Guidry
- **Sogang University**, Seoul, South Korea Mar. 1994-Feb. 2000  
**B.S. in Physics (major), Mathematics (minor)**, February 2000

## GRANTS

- **PI**, Ministry of Science, 100,000,000 KRW Jan. 2017-Present  
“Detailed design and commissioning of KOBRA detector systems”
- **Participating Researcher**, Ministry of Science, 25,000,000 KRW Dec. 2016-Present  
“Study of identifying topics in nuclear astrophysics using KOBRA”
- **Participating Researcher**, Ministry of Science, 8,600,000,000 KRW July. 2016-Present  
“Center for High Energy Astrophysics”
- **PI**, Ministry of Science, 90,000,000 KRW Mar. 2016-Present  
“Study of the  $\alpha$ -cluster structure of radionuclide  ${}^{22}\text{Mg}$ ”
- **PI**, Ministry of Education, 154,440,000 KRW Nov. 2015-Present  
“Nuclear astrophysics study using position sensitive ionization chamber”
- **PI**, Ministry of Education, 396,000,000 KRW Sep. 2014-Aug. 2017  
“Study of astrophysically important energy levels in Mg isotopes”
- **PI**, Ministry of Science, 150,000,000 KRW Jan. 2016-Dec. 2016  
“Designing and constructing detector systems for KOBRA”
- **PI**, Ministry of Science, 30,000,000 KRW June 2014-May 2015  
“Commissioning of portable ion counter using MC-50 proton beams”

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- **PI**, Ministry of Science, 100,000,000 KRW Aug. 2013-Feb. 2014  
“Detailed design of focal plane detection system and Gamma-array for Recoil spectrometer”
- **Participating Researcher**, Ministry of Education, 60,000,000 KRW Oct. 2012-Apr. 2013  
“Research on the Creation of New National Industry Using High Energy Particle Accelerator Technology”
- **Participating Researcher**, IBS, 550,000,000 KRW Oct. 2012-Apr. 2013  
“Detailed Design of Sub-system for Detectors and Experimental Equipments”
- **PI**, Ministry of Education, 153,270,000 KRW Sep. 2012-Aug. 2015  
“Research on Nuclear Astrophysics and Structure using Heavy Ion Beams”
- **PI**, SungKyunKwan University, 15,000,000 KRW July 2012-June 2013  
“Nuclear reaction evaluation for astrophysical phenomenon”
- **PI**, Ministry of Education, 60,000,000 KRW June 2012-May 2014  
“Developing portable fast ionization chamber”

## AWARDS

- Best Presentation Award  
“Constraining the spins of energy levels in  $^{21}\text{Na}$  nucleus through the  $^{24}\text{Mg}(p,\alpha)^{21}\text{Na}$  reaction”  
Korean Physical Society (2015).
- Director’s award for outstanding team accomplishment in Science and Technology,  
Oak Ridge National Laboratory (2010).
- Outstanding team accomplishment in Scientific Research, Oak Ridge National Laboratory (2010).

## SKILLS

- Proficiency with radiation detection system such as silicon detectors, gas target, gas-filled ionization counter, plastic scintillators, micro channel plates, and electronics.
- Significant mechanical experience with experimental hardware (target chambers, vacuum systems, gauges, etc.)
- Proficiency with FORTRAN 77, Java, Java 3D, HTML, PHP.
- Proficiency with Linux, Unix, Microsoft Windows 95/98/2000/XP/Vista/7.
- Knowledge of Adobe AutoCAD, GEANT4, C, Macromedia Flash.

## WORKSHOPS

- Origin of Matter and Evolution of Galaxies (OMEG 2017) June 2017  
Daejeon, Korea  
Organizing Committee
- SKKU mini workshop Oct. 11, 2016  
Suwon, Korea  
Chair

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- The 2nd Sicily-East Asia Workshop on Low-energy Nuclear Physics  
the University of Tokyo, Japan  
Chair  
June 2016
- SKKU International Symposium on Recent Progress in Physics  
Suwon, Korea  
Scientific Secretary  
November 2014
- SKKU Symposium on Astrophysics and Cosmology: from Particle to Universe  
Suwon, Korea  
Organizing Committee  
December 2013
- Workshop on experimental nuclear studies using RIBs  
Suwon, Korea  
Organizing Committee  
October 2013
- SKKU Symposium on Astrophysics and Cosmology: from Particle to Universe  
Suwon, Korea  
Organizing Committee  
August 2012

## **LANGUAGES**

- Korean: native language
- English: fluent

## **CITIZENSHIP: REPUBLIC OF KOREA (SOUTH KOREA)**

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## INVITED TALKS

- “The  $^{26g}\text{Al}(p,\gamma)^{27}\text{Si}$  reaction rate for astrophysical implication”  
**K.Y. Chae**  
2017 2nd CHEA Workshop  
UNIST, Ulsan, Korea, April 7, 2017
- “The  $^{18}\text{Ne}(\alpha,\alpha)^{18}\text{Ne}$  reaction measurement for the astrophysical  $^{18}\text{Ne}(\alpha,p)^{21}\text{Na}$  reaction rate”  
**K.Y. Chae**  
2017 1st CHEA Workshop  
Haeundae Grand Hotel, Busan, Korea, January 17, 2017
- “Nuclear astrophysics: the origin of chemical elements”  
**K.Y. Chae**  
Physics Department Colloquium  
UNIST, Ulsan, Korea, November 23, 2016
- “Measurement of the  $^{18}\text{Ne}+\alpha$  system for the  $\alpha$ -cluster structure in  $^{22}\text{Mg}$ ”  
**K.Y. Chae**  
2016 IBS Annual Meeting (2016)  
Daejeon, Korea, November 17-18, 2016
- “Low-energy nuclear physics measurements at KOBRA”  
**K.Y. Chae**  
2nd Sicily-East Asia Workshop (2016)  
RIKEN, Japan, June 26-29, 2016
- “Study of a cluster structure in  $^{22}\text{Mg}$ : Actually, the  $^{22}\text{Ne}+\alpha$  system!”  
**K.Y. Chae**  
2nd Studies on Rare Isotope based Nuclear Physics (2016)  
Korea Aerospace University, Goyang, Korea, April 8, 2016
- “Proposals of the day-1 experiments at KOBRA”  
**K.Y. Chae**  
Japan-Korea Joint Session of the 71th JPS Annual Meeting  
Tohoku Gakuin University, Sendai, Japan, March 19-22, 2016
- “The Separator for Capture Reaction, SECAR”  
**K.Y. Chae**  
1st Studies on Rare Isotope based Nuclear Physics (2016)  
Ewha Womans University, Seoul, Korea, January 7, 2016
- “The astrophysical  $^{26g}\text{Al}(p,\gamma)^{27}\text{Si}$  destruction rate”  
**K.Y. Chae**  
Frontiers of Physics  
The Ocean Resort, Yeosu, Korea, December 20-23, 2015
- “Supersonic gas jet target system for low energy nuclear physics experiments”  
**K.Y. Chae**  
KOBRA workshop  
RISP, Daejeon, Korea, November 21, 2015
- “The greatest alchemist in the Universe”  
**K.Y. Chae**

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Physics Department Colloquium  
Korea University, Seoul, Korea, November 3, 2015

- “Explosive Stars: the Alchemist”  
**K.Y. Chae**  
Physics Department Colloquium  
Kyungpook National University, Daegu, Korea, October 15, 2015
- “Possible day-1 experiment at KOBRA”  
**K.Y. Chae**  
KOBRA workshop  
RISP, Daejeon, Korea, August 13-14, 2015
- “Constraint of the astrophysical  $^{26g}\text{Al}(p,\gamma)^{27}\text{Si}$  destruction rate”  
**K.Y. Chae**  
Nuclear-Astrophysics: Theory and Experiments  
APCTP, Pohang, Korea, July 17-18, 2015
- “Low energy facility of RAON and supersonic gas jet target”  
**K.Y. Chae**  
Joint US-Korea Exploratory Workshop on Opportunities for Collaboration in Nuclear Science  
Facility for Rare Isotope Beams, East Lansing, USA, May 14-15, 2015
- “Instruments for scientific researches at NSCL”  
**K.Y. Chae**  
2nd Studies on Rare Isotope based Nuclear Physics (2015)  
Chung-Ang University, Seoul, Korea, February 26, 2015
- “International Collaborations for Low Energy Experiments at RAON”  
**K.Y. Chae**  
1st Studies on Rare Isotope based Nuclear Physics (2015)  
Yonsei University, Seoul, Korea, January 9, 2015
- “Transfer reaction studies on  $^{24}\text{Mg}$  for astrophysical implications”  
**K.Y. Chae**  
Korean Physical Society 2014 Fall Meeting, Pioneering Symposium  
Kim Dae Jung Convention Center, Gwangju, Korea, October 22-24, 2014
- “Transfer reaction studies on  $^{24}\text{Mg}$ ”  
**K.Y. Chae**  
18th Workshop on Astro-Nuclear Physics  
Soongsil University, Seoul, Korea, August 18-20, 2014
- “Radioactive Ion Beam Facility in Korea, RAON”  
**K.Y. Chae**  
1st Sicily-East Asia Workshop  
Sala Consiglio, SDS Architettura, Ortigia, Italy, July 28-31, 2014
- “Experimental Nuclear Astrophysics”  
**K.Y. Chae**  
3rd Studies on Rare Isotope based Nuclear Physics  
Korea Aerospace University, Goyang, Korea, April 11, 2014
- “Target and detector systems for KOBRA”  
**K.Y. Chae**

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1st RIBF-RISP Joint Workshop,  
RISP, Daejeon, Korea, November 7-8, 2013

- “Connection between CNO cycle and *rp*-process”  
**K.Y. Chae**  
Rare Isotopes and Nuclear Astrophysics with related topics Workshop,  
APCTP, Pohang, Korea, September 25-27, 2013
- “Thinking Star Dust: Experimental Nuclear Astrophysics”  
**K.Y. Chae**  
Physics Department Colloquium,  
Sogang University, Seoul, Korea, June 4, 2013
- “Gas Jet Target for Astrophysically Important Nuclear Reaction Studies using Radioactive Ion Beams”  
**K.Y. Chae**  
Korean Physical Society 2013 Spring Meeting, Pioneering Symposium,  
Daejeon Convention Center, Daejeon, Korea, April 24-26, 2013
- “New Era of Experimental Nuclear Astrophysics”  
**K.Y. Chae**  
Physics Department Colloquium,  
Chung Ang University, Seoul, Korea, April 1, 2013
- “Nuclear Astrophysics Experiments using Radioactive Ion Beams”  
**K.Y. Chae**  
2012 Nuclear Physics School,  
Asia Pacific Center for Theoretical Physics, Pohang, Korea, June 25-29, 2012
- “Study of  $^{18}\text{F} + p$  Resonances Relevant for Novae”  
**K.Y. Chae**  
Korean Physical Society 2012 Spring Meeting,  
Daejeon Convention Center, Daejeon, Korea, April 25-27, 2012
- “Cooking up elements in the universe: Nuclear astrophysics with exotic ion beams”  
**K.Y. Chae**  
Physics Department Colloquium,  
Sungkyunkwan University, Suwon, Korea, April 4, 2012
- “Bringing stellar reactions to earth”  
**K.Y. Chae**  
Sungkyunkwan University, Suwon, Korea, June 17, 2011
- “Overview of Nuclear Reaction Measurements for Basic Nuclear Science and Astrophysics”  
**K.Y. Chae**  
Stockpile Stewardship Academic Alliance Meeting,  
Lawrence Livermore National Laboratory, Livermore, California, USA, May 23-24, 2011
- “Cooking up elements in the universe: Recent activities at HRIBF”  
**K.Y. Chae**  
Nuclear Physics Group Seminar,  
Sungkyunkwan University, Suwon, Korea, August 11, 2009
- “We are stardust: Recent activities in nuclear astrophysics at ORNL”  
**K.Y. Chae**

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Nuclear Physics Group Seminar,  
Chung Ang University, Seoul, Korea, August 10, 2009

- “Cooking up elements in explosive stars”  
**K.Y. Chae**  
Nuclear Physics Group Seminar,  
Pusan National University, Pusan, Korea, May 16, 2008
- “Spin assignments of  $^{22}\text{Mg}$  through a  $^{24}\text{Mg}(p, t)^{22}\text{Mg}$  measurement”  
**K.Y. Chae**  
Nuclear Physics Group Seminar,  
University of Tennessee, Knoxville, USA, April 21, 2008
- “Interference effects among  $J^\pi=3/2^+$  resonances in  $^{19}\text{Ne}$  system”  
**K.Y. Chae**  
Nuclear Physics Group Seminar,  
University of Tennessee, Knoxville, USA, February 19, 2007
- “First experimental constraints on the interference of  $3/2^+$  resonances in the  $^{18}\text{F}(p, \alpha)^{15}\text{O}$  reaction”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, D. Gregory, M.W. Guidry, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, S. Paulaskas, M. Porter-Peden, J.F. Shriner Jr., N. Smith, M.S. Smith, J.S. Thomas  
HRIBF workshop on nuclear measurements for astrophysics,  
Oak Ridge, Tennessee, USA, October 23-24, 2006

## PRESENTATIONS

- “Construction and Commissioning of a Position-Sensitive Ionization Chamber”  
**K.Y. Chae**  
Korean Physical Society 2016 Spring Meeting,  
Daejeon Convention Center, Daejeon, Korea, April 20-22, 2016
- “Study of the  $^{26}\text{Al}(d, p)^{27}\text{Al}$  reaction for the astrophysical  $^{26g}\text{Al}(p, \gamma)^{27}\text{Si}$  reaction rate”  
**K.Y. Chae**, M.S. Gwak, S.M. Cha, S.W. Jo  
Korean Physical Society 2015 Fall Meeting,  
Hwabaek Center, Gyeongju, Korea, October 21-23, 2015
- “Developing portable fast ionization chamber”  
**K.Y. Chae**, M.S. Gwak, S.M. Cha, S.W. Jo  
Korean Physical Society 2013 Spring Meeting,  
Daejeon Convention Center, Daejeon, Korea, April 24-26, 2013
- “Searching for resonances in the unbound  $^6\text{Be}$  nucleus”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, Z. Ma, C.D. Nesaraja, M.S. Smith, A.E. Champagne, R.P. Fitzgerald, D.W. Visser, J.J. Das, V. Guimaraes, K.L. Jones, S.D. Pain, J.S. Thomas, M.S. Johnson, R.L. Kozub, R.J. Livesay  
Korean Physical Society 2012 Fall Meeting,  
Phoenix Park, Pyeongchang, Korea, October 24-26, 2012
- “Developing a fast ionization chamber for transfer reaction studies”  
**K.Y. Chae**, S.H. Ahn, D.W. Bardayan, B. Manning, S.D. Pain, W.A. Peters, K.T. Schmitt, M.S. Smith, S. Strauss  
The Annual Meeting of the Division of Nuclear Physics of the American Physics Society,  
East Lansing, Michigan, USA, October 26-29, 2011.



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- “Study of the  $^{19}\text{F}(\alpha,p)^{22}\text{Ne}$  reaction with an extended gas target”  
**K.Y. Chae**, S.H. Ahn, A. Ayres, D.W. Bardayan, A. Bey, M.E. Howard, K.L. Jones, R.L. Kozub, M. Matos, B.H. Moazen, C.D. Nesaraja, P.D. O’Malley, W.A. Peters, S.T. Pittman, M.S. Smith  
The Annual Meeting of the Division of Nuclear Physics of the American Physics Society,  
Santa Fe, New Mexico, USA, November 2-6, 2010.
- “A new technique for measuring astrophysically important  $(\alpha,p)$  reactions”  
**K.Y. Chae**, S.H. Ahn, A. Ayres, D.W. Bardayan, A. Bey, M.E. Howard, K.L. Jones, R.L. Kozub, M. Matos, B.H. Moazen, C.D. Nesaraja, P.D. O’Malley, W.A. Peters, S.T. Pittman, M.S. Smith  
Nuclei in the Cosmos XI,  
Heidelberg, Germany, July 19-23, 2010.
- “Spin assignments to excited states in  $^{22}\text{Na}$  through a  $^{24}\text{Mg}(p,^3\text{He})^{22}\text{Na}$  reaction measurement”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, B.H. Moazen, K.A. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, J.F. Liang, C.D. Nesaraja, P.D. O’Malley, C. Matei, S.D. Pain, S.T. Pittman, M.S. Smith  
The April Meeting 2010 of the American Physical Society,  
Washington D.C., USA, February 13-17, 2010.
- “Spin assignments of  $^{22}\text{Mg}$  levels through a  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  measurement”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, B.H. Moazen, K.A. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, J.F. Liang, C.D. Nesaraja, P.D. O’Malley, C. Matei, S.D. Pain, S.T. Pittman, M.S. Smith  
The April Meeting 2009 of the American Physical Society,  
Denver, Colorado, USA, May 2-5, 2009.
- “Searching for resonances in the unbound  $^6\text{Be}$  nucleus”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, J.J. Das, M.W. Guidry, V. Guimarães, K.L. Jones, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, M.S. Smith, J.S. Thomas, D.W. Visser  
20th International Conference on the Application of Accelerators in Research and Industry,  
Fort Worth, Texas, USA, August 10-15, 2008.
- “Spin assignments of  $^{22}\text{Mg}$  through a  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  measurement”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, B.H. Moazen, K. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, J.F. Liang, C.D. Nesaraja, P.D. O’Malley, C. Matei, S.D. Pain, S.T. Pittman, M.S. Smith  
Nuclei in the Cosmos X,  
Mackinac Island, Michigan, USA, July 27-August 1, 2008.
- “Spin assignments of  $^{22}\text{Mg}$  through  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  reaction measurement”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, B.H. Moazen, K.A. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, J.F. Liang, C.D. Nesaraja, P.D. O’Malley, C. Matei, S.D. Pain, S.T. Pittman, M.S. Smith  
The April Meeting 2008 of the American Physical Society,  
St. Louis, Missouri, USA, April 12-15, 2008.
- “Searching for resonances in the unbound  $^6\text{Be}$  nucleus”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, J.J. Das, M.W. Guidry, V. Guimarães, K.L. Jones, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, M.S. Smith, J.S. Thomas, D.W. Visser  
The Annual Meeting of the Division of Nuclear Physics of the American Physics Society,  
Newport News, Virginia, USA, October 10-13, 2007.
- “Searching for resonances in the unbound  $^6\text{Be}$  nucleus”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, J.J. Das, M.W. Guidry, V. Guimarães, K.L. Jones, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, M.S. Smith, J.S. Thomas, D.W. Visser  
Frontiers 2007,  
University of Notre Dame, Indiana, USA, August 19-21, 2007.

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- “Searching for resonances in the unbound  ${}^6\text{Be}$  nucleus”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, J.J. Das, M.W. Guidry, V. Guimarães, K.L. Jones, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, M.S. Smith, J.S. Thomas, D.W. Visser  
Stewardship Science Academic Alliance 2007 Program Symposium,  
Washington DC, USA, February 5-7, 2007.
- “First experimental constraints on the interference of  $3/2^+$  resonances in the  ${}^{18}\text{F}(p,\alpha){}^{15}\text{O}$  reaction”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, D. Gregory, M.W. Guidry, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, S. Paulaskas, M. Porter-Peden, J.F. Shriner Jr., N. Smith, M.S. Smith, J.S. Thomas  
The Annual Meeting of the Division of Nuclear Physics of the American Physics Society,  
Nashville, Tennessee, USA, October 25-28, 2006.
- “First experimental constraints on the interference of  $3/2^+$  resonances in the  ${}^{18}\text{F}(p,\alpha){}^{15}\text{O}$  reaction”  
**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, D. Gregory, M.W. Guidry, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, S. Paulaskas, M. Porter-Peden, J.F. Shriner Jr., N. Smith, M.S. Smith, J.S. Thomas  
HRIBF workshop on nuclear measurements for astrophysics,  
Oak Ridge, Tennessee, USA, October 23-24, 2006
- “First experimental constraints on the interference of  $3/2^+$  resonances in the  ${}^{18}\text{F}(p,\alpha){}^{15}\text{O}$  reaction”  
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J. Taprogge, A. Jungclaus, H. Grawe, S. Nishimura, P. Doornenbal, G. Lorusso, G.S. Simpson, P.-A. Soderstrom, T. Sumikama, Z. Xu, H. Baba, F. Browne, N. Fukuda, R. Gernhauser, G. Gey, N. Inabe, T. Isobe, H.S. Jung, D. Kameda, G.D. Kim, Y.-K. Kim, I. Kojouharov, T. Kubo, N. Kurz, Y.K. Kwon, Z. Li, H. Sakurai, H. Schaffner, K. Steiger, H. Suzuki, H. Takeda, Z. Vajta, H. Watanabe, J. Wu, A. Yagi, K. Yoshinaga, G. Benzoni, S. Bonig, **K.Y. Chae**, L. Coraggio, A. Covello, J.-M. Daugas, F. Drouet, A. Gadea, A. Gargano, S. Ilieva, F.G. Kondev, T. Kroll, G.J. Lane, A. Montaner-Piza, K. Moschner, D. Mucher, F. Naqvi, M. Niikura, H. Nishibata, A. Odahara, R. Orlandi, Z. Patel, Zs. Podolyak, A. Wendt  
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- “Construction of a fast ionization chamber for high-rate particle identification”  
**K.Y. Chae**, S. Ahn, D.W. Bardayan, K.A. Chipps, B. Manning, S.D. Pain, W.A. Peters, K.T. Schmitt, M.S. Smith, S. Strauss  
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- “Development of a portable gas-filled ionization chamber”  
**K.Y. Chae**, S.M. Cha, M.S. Gwak  
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- “Reactions of a  ${}^{10}\text{Be}$  beam on proton and deuteron targets”  
K.T. Schmitt, K.L. Jones, S.H. Ahn, D.W. Bardayan, A. Bey, J.C. Blackmon, S.M. Brown, **K.Y. Chae**, K.A. Chipps, J.A. Cizewski, K.I. Hahn, J.J. Kolata, R.L. Kozub, J.F. Liang, C. Matei, M. Matos, D. Matyas, B. Moazen, C. Nesaraja, F.M. Nunes, P.D. O’Malley, S.D. Pain, W.A. Peters, S.T. Pittman, A. Roberts, D. Shapira, J.F. Shriner Jr., M.S. Smith, I. Spassova, D.W. Stracener, N.J. Upadhyay, A.N. Villano, G.L. Wilson  
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- “Isomers in  ${}^{126}\text{Pd}$  and  ${}^{128}\text{Pd}$ : Evidence for a Robust Shell Closure at the Neutron Magic Number 82 in Exotic Palladium Isotopes”  
H. Watanabe, G. Lorusso, S. Nishimura, Z.Y. Xu, T. Sumikama, P.-A. Söderström, P. Doornenbal, F. Browne, G. Gey, H.S. Jung, J. Taprogge, Zs. Vajta, J. Wu, A. Yagi, H. Baba, G. Benzoni, **K.Y. Chae**, F.C.L. Crespi, N. Fukuda, R. Gernhäuser, N. Inabe, T. Isobe, A. Jungclaus, D. Kameda, I. Kojouharov, F.G. Kondev, T. Kubo, N. Kurz, Y.K. Kwon, G.J. Lane, Z. Li, C.-B. Moon, A. Montaner-Piza, K. Moschner, F. Naqvi, M. Niikura, H. Nishibata, D. Nishimura, A. Odahara, R. Orlandi, Z. Patel, Zs. Podolyak, H. Sakurai, H. Schaffner, G.S. Simpson, K. Steiger, H. Suzuki, H. Takeda, K. Yoshinaga  
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D.W. Bardayan, S. Ahn, J.C. Blackmon, **K.Y. Chae**, J.A. Cizewski, J. Elson, S. Hardy, L. Linhardt, B. Manning, M. Matos, S.D. Pain, L.G. Sobotka, M.S. Smith  
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**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, A.E. Champagne, J.J. Das, R.P. Fitzgerald, V. Guimarães, K.L. Jones, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, M.S. Smith, J.S. Thomas, D.W. Visser  
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K.A. Chipps, D.W. Bardayan, **K.Y. Chae**, J.A. Cizewski, R.L. Kozub, C. Matei, B.H. Moazen, C.D. Nesaraja, P.D. O’Malley, S.D. Pain, W.A. Peters, S.T. Pittman, K.T. Schmitt, M.S. Smith  
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- “ $^{26}\text{Al}+p$  elastic and inelastic scattering reactions and Galactic abundances of  $^{26}\text{Al}$ ”  
S.T. Pittman, D.W. Bardayan, **K.Y. Chae**, K.A. Chipps, K.L. Jones, R.L. Kozub, C. Matei, M. Matos, B.H. Moazen, C.D. Nesaraja, P.D. O’Malley, S.D. Pain, P.D. Parker, W.A. Peters, J.F. Shriner, Jr., M.S. Smith  
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K.T. Schmitt, K.L. Jones, A. Bey, S.H. Ahn, D.W. Bardayan, J.C. Blackmon, S.M. Brown, **K.Y. Chae**, K.A. Chipps, J.A. Cizewski, K.I. Hahn, J.J. Kolata, R.L. Kozub, J.F. Liang, C. Matei, M. Matos, D. Matyas, B. Moazen, C. Nesaraja, F.M. Nunes, P.D. O’Malley, S.D. Pain, W.A. Peters, S.T. Pittman, A. Roberts, D. Shapira, J.F. Shriner Jr., M.S. Smith, I. Spassova, D.W. Stracener, A.N. Villano, G. Wilson  
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- “ $^{19}\text{Ne}$  levels studied with the  $^{18}\text{F}(d, n)^{19}\text{Ne}^*(^{18}\text{F}+p)$  reaction”  
A.S. Adekola, C.R. Brune, D.W. Bardayan, J.C. Blackmon, **K.Y. Chae**, J.A. Cizewski, K.L. Jones, R.L. Kozub, T.N. Massey, C.D. Nesaraja, S.D. Pain, J.F. Shriner, Jr., M.S. Smith, J.S. Thomas  
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- “Comment on “Properties of  $^{26}\text{Mg}$  and  $^{26}\text{Si}$  in the  $sd$  shell model and the determination of the  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  reaction rate””  
K.A. Chipps, D.W. Bardayan, **K.Y. Chae**, J.A. Cizewski, R.L. Kozub, J.F. Liang, C. Matei, P.D. O’Malley, S.D. Pain, W.A. Peters, S.T. Pittman, M.S. Smith  
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P.D. O’Malley, D.W. Bardayan, A.S. Adekola, S. Ahn, **K.Y. Chae**, J.A. Cizewski, S. Graves, M.E. Howard, K.L. Jones, R.L. Kozub, L. Lindgardt, M. Matos, B.H. Moazen, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, K.T. Schmitt, J.F. Shriner, Jr., M.S. Smith, I. Spassova, S.Y. Strauss, J.L. Wheeler  
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A.S. Adekola, D.W. Bardayan, J.C. Blackmon, C.R. Brune, **K.Y. Chae**, A.E. Champagne, C. Domizioli, U. Greife, Z. Heinen, M.J. Hornish, M. Johnson, K.L. Jones, R.L. Kozub, R.J. Livesay, Z. Ma, T.N. Massey, B. Moazen, C.D. Nesaraja, S.D. Pain, J.F. Shriner, Jr., N.D. Smith, M.S. Smith, J.S. Thomas, D.W. Visser, A.V. Voinov  
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**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, K.A. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, J.F. Liang, C. Matei, B.H. Moazen, C.D. Nesaraja, P.D. O’Malley, S.D. Pain, S.T. Pittman, M.S. Smith  
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J.F. Shriner, Jr., D.W. Bardayan, J.C. Blackmon, **K.Y. Chae**, R.L. Kozub, M.S. Smith  
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B.H. Moazen, J.C. Blackmon, D.W. Bardayan, **K.Y. Chae**, K. Chipps, K.L. Grzywacz, R.L. Kozub, C. Matei, C.D. Nesaraja, S.D. Pain, J.F. Shriner Jr., M.S. Smith  
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B.H. Moazen, D.W. Bardayan, J.C. Blackmon, **K.Y. Chae**, K. Chipps, C.P. Domizioli, R. Fitzgerald, U. Greife, W.R. Hix, K.L. Jones, R.L. Kozub, E.J. Lingerfelt, R.J. Livesay, C.D. Nesaraja, S.D. Pain, L.F. Roberts, J.F. Shriner Jr., M.S. Smith, J.S. Thomas  
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**K.Y. Chae**, D.W. Bardayan, J.C. Blackmon, D. Gregory, M.W. Guidry, M.S. Johnson, R.L. Kozub, R.J. Livesay, Z. Ma, C.D. Nesaraja, S.D. Pain, S. Paulaskas, M. Porter-Peden, J.F. Shriner Jr., N. Smith, M.S. Smith, J.S. Thomas  
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D.W. Bardayan, J.A. Howard, J.C. Blackmon, C.R. Brune, **K.Y. Chae**, W.R. Hix, M.S. Johnson, K.L. Jones, R.L. Kozub, J.F. Liang, E.J. Lingerfelt, R.J. Livesay, S.D. Pain, J.P. Scott, M.S. Smith, J.S. Thomas, D.W. Visser  
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Nucl. Phys. A **746**, 569c (2004)

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## PROCEEDINGS

- “Impact of the  $^{26m}\text{Al}(p,\gamma)$  Reaction to Galactic  $^{26}\text{Al}$  Yield”  
D. Kahl, H. Shimizu, H. Yamaguchi, K. Abe, O. Beliuskina, S.M. Cha, **K.Y. Chae**, A.A. Chen, Z. Ge, S. Hayakawa, N. Imai, N. Iwasa, A. Kim, D.H. Kim, M. J. Kim, S. Kubono, M. S. Kwag, J. Liang, J.Y. Moon, S. Nishimura, S. Oka, S. Y. Park, A. Psaltis, T. Teranishi, Y. Ueno, L. Yang  
submitted to the proceedings of the International Symposium on Origin of Matter and Evolution of Galaxies 2017 (OMEG 2017) (2017)
- “X-ray Burst Studies with the JENSA Gas Jet Target”  
K. Schmidt, K.A. Chipps, S. Ahn, J.M. Allen, S. Ayoub, D.W. Bardayan, J.C. Blackmon, D. Blankstein, J. Browne, S.M. Cha, **K.Y. Chae**, J. Cizewski, C.M. Deibel, E. Deleeuw, O. Gomez, U. Greife, U. Hager, M.R. Hall, K.L. Jones, A. Kontos, R.L. Kozub, E.J. Lee, A. Lepailleur, L.E. Linhardt, M. Matos, Z. Meisel, F. Montes, P.D. O'Malley, W. Ong, S.D. Pain, A. Sachs, H. Schatz, K.T. Schmitt, K. Smith, M.S. Smith, N.F. Soares de Bem, P.J. Thompson, R. Toomey, D. Walter  
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- “Transfer reactions with  $^{134}\text{Xe}$ ”  
S.D. Pain, K.A. Chipps, M. Febraro, I. Marsh, M.S. Smith, R.L. Varner, T. Baugher, J.A. Cizewski, H. Garland, A. Lepailleur, A. Ratkiewicz, H. Sims, P.L. Tai, D. Walter, S. Burcher, K.L. Jones, K. Smith, P. Thompson, C. Thornsberry, A. Engelhardt, R.L. Kozub, S. Shadrack, J. Anderson, M. Carpenter, D. Seweryniak, S. Zhu, J. Allen, D.W. Bardayan, M.R. Hall, O. Hall, J. Hu, P.D. O'Malley, S.M. Cha, **K.Y. Chae**, E.J. Lee, G.L. Wilson  
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