

# CIRRICULUM VITAE

## GRZEGORZ KAMIŃSKI

### PERSONAL INFORMATION:

Surname: KAMIŃSKI  
Name: Grzegorz  
Citizenship: Polish  
Date & Place of Birth: 12.03.1979, Przysucha  
Marital Status: Married  
Home Address: Sokratesa 9/284, 01-909 Warsaw, Poland  
Academic Degree: Ph.D. in Physical Sciences  
Institute Position: Flerov Laboratory of Nuclear Reactions Deputy Director  
Phone: +7 (49621) 65008  
Email: kaminski@jinr.ru

### ACADEMIC DEGREES:

- 2003 Dipl. in Physics, July, 2003. Thesis: "Radioactive ion beams. Acceleration and applications", Advisor: Prof. Sławomir Chojnacki.  
2013 Ph.D in Physics, March, 2013. Thesis: "Analysis of production mechanisms of forward emitted fragments with  $2 \leq Z \leq 12$  in nucleus-nucleus collisions in the Fermi energy domain".  
First advisor: Prof. Andrzej Budzanowski (died: in 2011)  
Second advisor: Prof. Bogdan Fornal.

### EDUCATION:

- 1998-2003 Jan Kochanowski University, Kielce, Poland

### PROFESSIONAL CAREER

#### RESEARCH POSITIONS

- 2003-2005 Junior Researcher  
2006-2013 Scientific Researcher  
2013-2019 Senior Researcher  
Since 2019 FLNR Deputy Director      Flerov Laboratory of Nuclear Reactions

#### HOME INSTITUES:

- 2003-2017 Institute of Nuclear Physics, PAN, Kraków, Poland  
Since 2018 Heavy Ion Laboratory, University of Warsaw, Warsaw, Poland

### PROFESSIONAL ACTIVITIES

- Since 2015 Member of Flerov Laboratory of Nuclear Reactions Scientific Council

## HONORS AND FELLOWSHIPS

- 2017      "EXPERT - EXotic Particle Emission and Radioactivity by Tracking", I-st JINR prize in Physics Instruments and Methods.

The Association of Young Specialists and Scientists (AYSS) of JINR Grants:

- For scientific stuff without a degree (2012, 2013)
- For scientific stuff with a degree (2014)

## RESEARCH INTERESTS

- MAIN INTERESTS: Experimental nuclear physics, gaseous detectors.
- NUCLEAR REACTIONS: Fragmentation reaction mechanisms, nuclear reaction codes; study of reaction kinematics, velocity and energy dissipation at intermediate energy reactions.
- BETA-DECAY AND SPECTROSCOPY: Study of beta-decay properties (half-lives and beta-delayed proton-emission probabilities), beta-delayed spectroscopy.
- TECHNICAL: Production of radioactive ion beams, in-flight separators (ACCULINNA-2); beta-delayed particle detection (Optical Time Projection Chamber spectrometer), neutron detectors (stilbene crystals array), beam diagnostics (ionization beam profile monitor), Active Target Time Projection Chamber.

## CONFERENCES, SEMINARS IN 2015 – 2019

- May 2015      Participation in Workshop "Active Targets and Time Projection Chambers for Nuclear Physics Experiments", East Lansing, MI, USA.
- June 2015      Oral presentation at International Scientific Meeting on Nuclear Physics: "Basic concepts in Nuclear Physics: theory, experiments and applications". Title: *Study of the structure of exotic nuclei far from the stability by means of the OTPC*, La Rabida, Spain.
- July 2015      Oral presentation at Seventh International Student Summer School on "Nuclear Physics – Science and Applications" (NUCPHYS- SC&APPL), Adam Mickiewicz University. Title: *Research program at ACCULINNA in-flight facility. OTPC – a novel technique for studies of exotic nuclei*, Poznań, Poland.
- October 2015    Poster presentation at International School for young researches "Excellence in Detectors and Instrumentation Technologies EDIT 2015". Title: *Studies of β-delayed particle emission by means of the Optical Time Projection Chamber*, INFN-LNF, Friscati, Italy.
- March 2016     Invited seminar at Faculty of Physics, University of Coimbra. Title: *Investigations of structure of light exotic nuclei by means of the Optical Time Projection Chamber*, Coimbra, Portugal.
- April 2016      Oral presentation at Super-FRS Collaboration Meeting. Title: *OTPC for EXPERT*, Walldorf, Germany.
- May 2016       Seminar at Faculty of Physics and Applied Computer Science, AGH. Title: *Study of light exotic nuclei at FLNR, JINR. Students trainings at JINR*, Krakow, Poland.
- June 2016       Oral presentation at XI-th International Conference „Ion Implantation and Other Applications of Ions and Electrons” ION 2016. *Study of β-delayed particle emission based on gas ionization by means of the OTPC*, Kazimierz Dolny, Poland.
- September 2016   Two oral presentations at "International Nuclear Physics Conference 2016". Title: *Physical problems to be clarified with the use of radioactive ion beams of the*

	<i>ACCULINNA-2 separator and The ACCULINNA and ACCULINNA-2 radioactive ion beam facility at Dubna: status and perspectives</i> , Adelaide, Australia.
February 2017	Invited seminar at IFIC Valencia University. Title: <i>Study of exotic nuclei at FLNR. The OTPC at ACCULINNA</i> , Valencia, Spain
April 2017	Seminar at Faculty of Physics and Applied Computer Science, AGH. Title: <i>Study of light exotic nuclei at FLNR, JINR. Students trainings at JINR</i> , Krakow, Poland.
October 2017	Oral presentation (plenary session) at Latin-American Symposia on Nuclear Physics and Applications (LASNPA). Title: <i>First beams at the new RIBs facility at Dubna – ACCULINNA-2</i> , Havana, Cuba.
January 2018	Oral presentation at NUSPRASEN conference. Title: <i>Perspectives for study with light radioactive ion beams at ACCULINNA-2</i> , HIL, UW, Warsaw, Poland.
March 2018	Invited seminar at Faculty of Physics and Applied Computer Science, AGH. Title: <i>Study of light radioactive nuclides on the ACCULINNA-2 separator. Internships for students in JINR</i> , Kraków, Poland.
August 2018	Oral presentation at Extremes of Nuclear Landscape conference. <i>ACCULINNA-2: a new perspectives for studies with light radioactive ion beams at Dubna</i> , Zakopane, Poland.
September 2018	Oral presentation at EMIS2018 conference. Title: <i>Status of the new fragment separator ACCULINNA-2 and first experiments</i> , Geneva.
October 2018	Oral presentation at the “Nuclear Physics Research-Technology coaction WORKSHOP”. Title: <i>Experimental techniques at ACCULINNA-2 separator at FLNR, JINR, Dubna</i> , HIL, UW, Warsaw, Poland.
October 2018	Oral presentation at the first Meeting of Consortium NICA PL and Seminar “Main Activities at Joint Institute for Nuclear Research in Dubna”. Title: <i>Research possibilities at Flerov Laboratory of Nuclear Reactions JINR</i> , Kielce, Poland.
November 2018	Seminar at FUW, UW. Title: <i>Status of the new fragment separator ACCULINNA-2 and first experiments</i> , Warsaw, Poland.
May 2019	Seminar at FLNR for excursion polish visitors from AGH, Krakow (Students science association <i>Boson</i> ). Title: <i>Research possibilities at Flerov Laboratory of Nuclear Reactions JINR</i> , Dubna, Russia.
July 2019	Oral presentation at African Nuclear Physics Conference (ANPC). Title: <i>Experimental study with light RIB at ACCULINNA-2 @ FLNR, JINR</i> , Kruger National Park, South Africa.
September 2019	Oral presentation at International conference “XXXIII Mazurian Lakes Conference on Physics Frontiers in Nuclear Physics”. Title: <i>Recent experimental studies at the ACCULINNA-2 separator</i> , Piaski, Poland.
September 2019	Oral presentation at “JEMS – JINR Expertise for Member States and Partner Countries”. Title: <i>Study with light radioactive ion beams at the ACCULINNA-2 separator</i> , FLNR, Dubna, Russia.
October 2019	Participation in NICA Days, Warsaw, Poland.
October 2019	Main organizer of the EXPERT Workshop, HIL, UW, Warsaw, Poland.
October 2019	Invited seminar at VNU. Title: <i>Status of the SHE factory at FLNR and light radioactive ion beams at the ACCULINNA-2</i> , Ho Chi Minh, Vietnam.
November 2019,	Invited seminar at DNRI. Title: <i>Status of the SHE factory at FLNR and light radioactive ion beams at the ACCULINNA-2</i> , Dalat, Vietnam.
November 2019,	Oral presentation at “Nuclear Physics Research-Technology coaction WORKSHOP”. Title: <i>Experimental instrumentation at ACCULINNA-2 separator, FLNR, JINR</i> , Seville, Spain.

## SELECTED PUBLICATIONS FOR 2015 - 2020

1. A.A. Ciemny, W. Dominik, T. Ginter, R. Grzywacz, Z. Janas, M. Kuich, C. Mazzocchi, M. Pfützner, M. Pomorski, D. Bazin, T. Baumann, A. Bezbakh, B. P. Crider, M. Ćwiok, S. Go, **G. Kamiński**, K. Kolos, A. Korgul, E. Kwan, S. Liddick, K. Miernik, S. V. Paulauskas, J. Pereira, T. Rogiński, K. Rykaczewski, C. Sumithrarachchi, Y. Xiao, H. Schatz, and P. Sarriuguren, *First identification of  $^{58}\text{Zn}$   $\beta$ -delayed proton emission*, **Phys. Rev. C** 101, 034305 (2020).
2. A.A. Bezbakh, V. Chudoba, S.A. Krupko, S.G. Belogurov, D. Biare, A.S. Fomichev, E.M. Gazeeva, A.V. Gorshkov, L.V. Grigorenko, **G. Kamiński**, O. Kiselev, D.A. Kostyleva, M.Yu. Kozlov, B. Mauyey, I. Mukha, I.A. Muzalevskii, E.Yu. Nikolskii, Yu.L. Parfenova, W. Piatek, A.M. Quynh V.N. Schetinin, A. Serikov, S.I. Sidorchuk, P.G. Sharov, R.S. Slepnev, S.V. Stepansov, A. Swiercz, P. Szymkiewicz, G.M. Ter-Akopian, R. Wolski, B. Zalewski and M.V. Zhukov, *Evidence of the first excited state of  $^7\text{H}$* , **Phys. Rev. Lett.** 124 (2020) 022502.
3. **G. Kamiński**, B. Zalewski, S.G. Belogurov, A.A. Bezbakh, D. Biare, V. Chudoba, A.S. Fomichev, E.M. Gazeeva, M.S. Golovkov, A.V. Gorshkov, L.V. Grigorenko, D.A. Kostyleva, S.A. Krupko, I.A. Muzalevsky, E.Yu. Nikolskii, Yu.L. Parfenova, P. Plucinski, A.M. Quynh, A. Serikov, S.I. Sidorchuk, R.S. Slepnev, P.G. Sharov, P. Szymkiewicz, A. Swiercz, S.V. Stepansov, G.M. Ter-Akopian, and R. Wolski, *Status of the new fragment separator ACCULINNA-2 and first experiments*, **Nucl. Instrum and Meth. B** 463 (2020) 504-507.
4. D. Kostyleva I. Mukha, L. Acosta, E. Casarejos, V. Chudoba, A. A. Ciemny, W. Dominik, J. A. Dueñas, V. Dunin, J. M. Espino, A. Estradé, F. Farinon, A. Fomichev, H. Geisse, A. Gorshkov, L. V. Grigorenko, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knöbel, S. Krupko, M. Kuich, Yu. A. Litvinov, G. Marquinez-Durán, I. Martel, C. Mazzocchi, C. Nociforo, A. K. Ordúz, M. Pfützner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A. M. Sánchez-Benítez, C. Scheidenberger, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y. K. Tanaka, H. Weick, M. Winkler, J. S. Winfield, X. Xu, and M. V. Zhukov, “*Towards the Limits of Existence of Nuclear Structure: Observation and First Spectroscopy of the Isotope  $^{31}\text{K}$  by Measuring Its Three-Proton Decay*”, **Phys. Rev. Lett.** 123 (2019) 092502.
5. V. Chudoba, L. V. Grigorenko, A. S. Fomichev, A. A. Bezbakh, I. A. Egorova, S. N. Ershov, A. V. Gorshkov, V. A. Gorshkov, **G. Kamiński**, S. A. Krupko, I. Mukha, E. Yu. Nikolskii, Yu. L. Parfenova, S. I. Sidorchuk, P. G. Sharov, R. S. Slepnev, L. Standylo, S. V. Stepansov, G. M. Ter-Akopian, R. Wolski, M. V. Zhukov, *Detailed Study of External Correlations in the Low-Energy Spectrum of Beryllium-6*, **Bull. RAS**, 83 (2019) 392.
6. A.S. Fomichev, A. A. Bezbakh, S. G. Belogurov, R. Wolski, E. M. Gazeeva, A. V. Gorshkov, L. V. Grigorenko, B. Zalewski, **G. Kamiński**, S. A. Krupko, I. A. Muzalevskii, E. Yu. Nikolskii, Yu. L. Parfenova, S. I. Sidorchuk, R. S. Slepnev, G. M. Ter-Akopian, V. Chudoba, P. G. Sharov, *The First Experiments with the New ACCULINNA-2 Fragment Separator*, **Bull. RAS**, 83 (2019) 385.
7. X.-D. Xu, I. Mukha, L.V. Grigorenko, C. Scheidenberger, L. Acosta, E. Casarejos, V. Chudoba, A.A. Ciemny, W. Dominik, J. Duenas-Díaz, V. Dunin, J. M. Espino, A. Estradé, F. Farinon, A. Fomichev, H. Geissel, T.A. Golubkova15, A. Gorshkov, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knobel, S. Krupko, M. Kuich, Yu.A. Litvinov, G. Marquinez-Duran, I. Martel, C. Mazzocchi, C. Nociforo, A.K. Orduz, M. Pfutzner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A.M. Sanchez- Benitez, P. Sharov, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y.K. Tanaka, H. Weick, M. Winkler, and J.S. Winfield, *Spectroscopy of excited states of unbound nuclei  $^{30}\text{Ar}$  and  $^{29}\text{Cl}$* , **Phys. Rev. C** 97 (2018) 034305.
8. M. Matejska-Minda, P.J. Napiorkowski, T. Abraham, P. Bednarczyk, A. Bezbakh, D. Doherty, K. Hadynska-Klek, J. Iwanicki, **G. Kamiński**, M. Kisielinski, M. Komorowska, M. Kowalczyk, R. Kumar, A. Maj, T. Marchlewski, P. Matuszczak, V. Nanal, A. Nannini, M. Palacz, L. Próchniak, M. Rocchini, M. Saxena, M. Siciliano, J. Srebrny, A. Stolarz, J. Styczen, B. Wasilewska, K. Wrzosek-Lipska, and M. Zielińska, *Electromagnetic properties of  $^{45}\text{Sc}$  studied by low-energy Coulomb excitation*, **Acta Phys. Pol. B**49 (2018) 567.
9. A. Bezbakh, S. G. Belogurov, R. Wolski, E. M. Gazeeva, M. S. Golovkov, A. V. Gorshkov, G. Kamiński, M. Yu. Kozlov, S. A. Krupko, I. A. Muzalevky, E. Yu. Nikolskii, E. V. Ovcharenko, R. S. Slepnev, G. M. Ter-Akopian, A. S. Fomichev, V. Chudoba, P. G. Sharov, and V. N. Schetinin, *A Neutron Spectrometer for Experiments with Radioactive Beams on the ACCULINNA-2 Fragment Separator*, **Instr. Exp. Tech.** 61 (2018) 631-638.
10. V. Chudoba, L.V. Grigorenko, A.S. Fomichev, A.A. Bezbakh, I.A. Egorova, S.N. Ershov, M.S. Golovkov, A.V. Gorshkov, V.A. Gorshkov, **G. Kamiński**, S.A. Krupko, I. Mukha, E.Yu. Nikolskii, Yu.L. Parfenova, S.I. Sidorchuk, P.G.

- Sharov, R.S. Slepnev, L. Standylo, S.V. Stepansov, G.M. Ter-Akopian, R. Wolski, and M.V. Zhukov, *Three-body correlations in direct reactions: Example of  ${}^6\text{Be}$  populated in  $(p,n)$  reaction*, **Phys. Rev. C** 98 (2018) 054612.
11. I. Mukha, L. V. Grigorenko, D. Kostyleva, L. Acosta, E. Casarejos, A. A. Ciemny, W. Dominik, J. A. Dueñas, V. Dunin, J. M. Espino, A. Estradé, F. Farinon, A. Fomichev, H. Geissel, A. Gorshkov, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knöbel, S. Krupko, M. Kuich, Yu. A. Litvinov, G. Marquinez-Durán, I. Martel, C. Mazzocchi, C. Nociforo, A. K. Ordúz, M. Pfützner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A. M. Sánchez-Benítez, C. Scheidenberger, P. Sharov, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y. K. Tanaka, H. Weick, M. Winkler, J. S. Winfield, X. Xu, and M. V. Zhukov, *Deep excursion beyond the proton dripline. I. Argon and chlorine isotope chains*, **Phys. Rev. C** 98 (2018) 064308.
  12. L. V. Grigorenko, I. Mukha, D. Kostyleva, C. Scheidenberger, L. Acosta, E. Casarejos, V. Chudoba, A. A. Ciemny, W. Dominik, J. A. Dueñas, V. Dunin, J. M. Espino, A. Estradé, F. Farinon, A. Fomichev, H. Geissel, A. Gorshkov, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knöbel, S. Krupko, M. Kuich, Yu. A. Litvinov, G. Marquinez-Durán, I. Martel, C. Mazzocchi, E. Yu. Nikolskii, C. Nociforo, A. K. Ordúz, M. Pfützner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A. M. Sánchez-Benítez, P. Sharov, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y. K. Tanaka, H. Weick, M. Winkler, J. S. Winfield, X. Xu, and M. V. Zhukov, *Deep excursion beyond the proton dripline. II. Toward the limits of existence of nuclear structure*, **Phys. Rev. C** 98 (2018) 064309.
  13. X.-D. Xu, I. Mukha, L.V. Grigorenko, C. Scheidenberger, L. Acosta, E. Casarejos, V. Chudoba, A.A. Ciemny, W. Dominik, J. Duenas-Diaz, V. Dunin, J. M. Espino, A. Estradé, F. Farinon, A. Fomichev, H. Geissel, T.A. Golubkova15, A. Gorshkov, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knobel, S. Krupko, M. Kuich, Yu.A. Litvinov, G. Marquinez-Duran, I. Martel, C. Mazzocchi, C. Nociforo, A.K. Ordúz, M. Pfützner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A.M. Sanchez- Benítez, P. Sharov, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y.K. Tanaka, H. Weick, M. Winkler, and J.S. Winfield, *Spectroscopy of excited states of unbound nuclei  ${}^{30}\text{Ar}$  and  ${}^{29}\text{Cl}$* , **Phys. Rev. C** 97 (2017) 034305.
  14. P. G. Sharov, A. S. Fomichev, A. A. Bezbakh, V. Chudoba, I. A. Egorova, M. S. Golovkov, T. A. Golubkova, A. V. Gorshkov, L. V. Grigorenko, **G. Kamiński**, A. G. Knyazev, S. A. Krupko, M. Mentel, E. Yu. Nikolskii, Yu. L. Parfenova, P. Pluchinski, S. A. Rymzhanova, S. I. Sidorchuk, R. S. Slepnev, S. V. Stepansov, G. M. Ter-Akopian, and R. Wolski, *Search for 2p decay of the first excited state of  ${}^{17}\text{Ne}$* , **Phys. Rev. C** 96 (2017) 025807.
  15. Ł. Janiak, N. Sokołowska, A. A. Bezbakh, A. A. Ciemny, H. Czyrkowski, R. Dąbrowski, W. Dominik, A. S. Fomichev, M. S. Golovkov, A. V. Gorshkov, Z. Janas, **G. Kamiński**, A. G. Knyazev, S. A. Krupko, M. Kuich, C. Mazzocchi, M. Mentel, M. Pfützner, P. Pluciński, M. Pomorski, R. S. Slepniev, and B. Zalewski,  *$\beta$ -delayed proton emission from  ${}^{26}\text{P}$  and  ${}^{27}\text{S}$* , **Phys. Rev. C** 95 (2017) 034315.
  16. A.A. Ciemny, W. Dominik, T. Ginter, R. Grzywacz, Z. Janas, M. Kuich, C. Mazzocchi, K. Miernik, M. Pfützner, M. Pomorski, D. Bazin, T. Baumann, A. Bezbakh, B.P. Crider, M. Ćwiok, S. Go, **G. Kamiński**, K. Kolos, A. Korgul, E. Kwan, S.N. Liddick, S.V. Paulauskas, J. Pereira, K.P. Rykaczewski, C. Sumithrarachchi, and Y. Xiao, *First measurement of  ${}^{60}\text{Ge}$   $\beta$ -decay*, **Eur. Phys. J. A**, 52 (2016) 89.
  17. Mukha, L.V. Grigorenko, X. Xu, L. Acosta, E. Casarejos, A.A. Ciemny, W. Dominik, J. Duenas-Diaz, V. Dunin, J. M. Espino, A. Estrade, F. Farnon, A. Fomichev, H. Geissel, T.A. Golubkova, A. Gorshkov, Z. Janas, **G. Kamiński**, O. Kiselev, R. Knobel, S. Krupko, M. Kuich, Yu.A. Litvinov, G. Marquinez-Duran, I. Martel, C. Mazzocchi, C. Nociforo, A. K. Ordúz, M. Pfützner, S. Pietri, M. Pomorski, A. Prochazka, S. Rymzhanova, A.M. Sanchez-Bentez, C. Scheidenberger, P. Sharov, H. Simon, B. Sitar, R. Slepnev, M. Stanoiu, P. Strmen, I. Szarka, M. Takechi, Y.K. Tanaka, H. Weick, M. Winkler, and J.S., Winfeld, *Observation and spectroscopy of new proton-unbound isotopes  ${}^{30}\text{Ar}$  and  ${}^{29}\text{Cl}$  - an interplay of prompt two-proton and sequential decay*, **Phys. Rev. Lett** 115 (2015) 202501.
  18. A.A. Ciemny, W. Dominik, T. Ginter, R. Grzywacz, Z. Janas, M. Kuich, C. Mazzocchi, M. Pfützner, M. Pomorski, F. Zarzynski, D. Bazin, T. Baumann, A. Bezbakh, B.P. Crider, M. Cwiok, S. Go, **G. Kamiński**, K. Kolos, A. Korgul, E. Kwan, S. Liddick, K. Miernik, S.V. Paulauskas, J. Pereira, K. Rykaczewski, C. Sumithrarachchi, and Y. Xiao, *First observation of  ${}^{59}\text{Ge}$* , **Phys. Rev. C** 92 (2015) 014622.
  19. M. Pfützner, W. Dominik, Z. Janas, C. Mazzocchi, M. Pomorski, A.A. Bezbakh, M.J.G. Borge, K. Chrapkiewicz, V. Chudoba, R. Frederickx, **G. Kamiński**, M. Kowalska, S. Krupko, M. Kuich, J. Kurcewicz, A.A. Lis, M.V. Lund, K. Miernik, J. Perkowski, R. Raabe, G. Randisi, K. Riisager, S. Sambi, O. Tengblad, and F. Wenander,  *$\beta$  decay of  ${}^6\text{He}$  into the  $\alpha + d$  continuum*, **Phys. Rev. C** 92 (2015) 014316.