

Curriculum Vitae
Dmitry CHERNYAK

Contact information

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Personal information

Name: Dmitry CHERNYAK
Date of birth: 06 September 1988
Place of birth: Kiev, Union of Soviet Socialist Republics
Citizenship: Ukraine
Marital status: Single

Languages

Russian and Ukrainian – native; English – proficient; Japanese – beginner

Education

- ❖ Ph.D. in Nuclear, Particle and High Energy Physics, Nov. 2011 – July 2015
Institute for Nuclear Research NASU, Kyiv, Ukraine / Centre de Sciences Nucléaires et de Sciences de la Matière and University of Paris-Sud, Orsay, France
Thesis title: “Development of cryogenic low background detector based on enriched zinc molybdate crystal scintillators to search for neutrinoless double beta decay of ^{100}Mo ”, <http://arxiv.org/abs/1507.04591>
- ❖ Master of Science, experimental nuclear physics, Sept. 2009 – June 2011
Taras Shevchenko National University of Kyiv, Faculty of Physics, Nuclear Physics Department, Kyiv, Ukraine
Thesis title: “Low-background detector with $^{116}\text{CdWO}_4$ crystal scintillators to search for 2β decay of ^{116}Cd ”
- ❖ Bachelor of Science, physics, Sept. 2005 – June 2009
Taras Shevchenko National University of Kyiv, Faculty of Physics, Nuclear Physics Department, Kyiv, Ukraine
Thesis title: “Development of the low-background scintillating detector with CaMoO_4 crystal scintillators to search for neutrinoless double beta decay of ^{100}Mo ”

Research experience

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| May 2016 – present | Project Researcher, <i>Kavli Institute for the Physics and Mathematics of the Universe, The University of Tokyo, Japan</i> |
| July 2015 – present | Junior scientific researcher, <i>Lepton Physics Department, Institute for Nuclear Research NASU, Kyiv, Ukraine</i> |
| Aug. – Sept. 2016 | Research activity (37 days) at the <i>Baksan Neutrino Observatory, Institute for Nuclear Research RAS, Neutrino, Russia</i> (Project “16K05371”) |

December 2015	Research activity (14 days) at the <i>Centre de Sciences Nucléaires et de Sciences de la Matière (Orsay, France)</i> within the LUMINEU Collaboration (Project “95471S – LIA – CNRS”)
April 2012	Research activity at the <i>Laboratoire Souterrain de Modane (Modane, France)</i> within the LUMINEU and EDELWEISS Collaborations
Jan. 2012 – Dec. 2014	Research activity as hired personnel of <i>ISOTTA project (ISOTOpe Trace Analysis, http://isotta.in2p3.fr/)</i> , funded in the framework of the ASPERA 2nd Common Call for R&D Activities)
Oct. 2010 – Sept. 2015	Research activity (20–50 days per year) at the <i>Laboratori Nazionali del Gran Sasso of the INFN (Assergi, Italy)</i> and the <i>Department of Physics of the University of Rome "La Sapienza" (Rome, Italy)</i> within the DAMA Collaboration (full time – 160 days)
July 2009 – June 2015	First-class engineer, <i>Lepton Physics Department, Institute for Nuclear Research NASU, Kyiv, Ukraine</i>
Sept. 2008 – Dec. 2008	Second-class technician, <i>Lepton Physics Department, Institute for Nuclear Research NASU, Kyiv, Ukraine</i>

Honors and Awards

- ❖ June 2013 – May 2015
Scholarship named after Yu.G.Zdesenko of the Institute for Nuclear Research NASU
- ❖ Jan. 2010 – June 2010
Scholarship of the National Nuclear Energy Generating Company of Ukraine “Energoatom” for successful students

Research Interests

- ❖ Development of scintillation detectors for low-background experiments (investigation of double beta decay and dark matter search)
- ❖ Monte-Carlo simulation
- ❖ Data analysis and interpretation

Collaborations

- ❖ KamLAND (since 2016)
- ❖ LUMINEU (since 2012)
- ❖ ISOTTA project (2011 – 2014)
- ❖ DAMA (R&D and small experiments, since 2010)
- ❖ AMoRE (since 2009)

Organization of scientific meetings

- ❖ Member of the local organizing committee of the International Workshop on Radiopure Scintillators (RPSCINT 2013), *Institute for Nuclear Research NASU, Kyiv, Ukraine, 17–20 September 2013*

Conferences, meetings, seminars, workshops and summer schools

1. Invited seminar at the Research Center for Neutrino Science (RCNS), *Mozumi, Japan, 02 March 2016*
2. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 01–05 February 2016*
3. Luminescent processes in condensed state of matter (LUMCOS 2015), *Kharkov, Ukraine, 07–09 October 2015*
4. Invited seminar at the Laboratori Nazionali del Gran Sasso of the INFN, *Assergi, Italy, 10 September 2015*
5. French annual PhD student conference "Journes Des Doctorants 2015", *Orsay, France, 20-21 May 2015*
6. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 26–30 January 2015*
7. French annual PhD student conference "Journes Des Doctorants 2014", *Orsay, France, 9-10 April 2014*
8. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 27–31 January 2014*
9. 2nd LUMINEU general meeting, Centre de Sciences Nucléaires et de Sciences de la Matière (CSNSM), *Orsay, France, 13–14 January 2014*
10. International Workshop on Radiopure Scintillators (RPSCINT 2013), Institute for Nuclear Research NASU, *Kyiv, Ukraine, 17–20 September 2013*
11. Groupement de Recherche (GDR) Neutrino meeting, Pierre-and-Marie-Curie University (Paris VI), *Paris, France, 21–22 May 2013*
12. French annual PhD student conference "Journes des Doctorants 2013", *Orsay, France, 27-28 March 2013*
13. 1st LUMINEU general meeting, Centre de Sciences Nucléaires et de Sciences de la Matière (CSNSM), *Orsay, France, 04 February 2013*
14. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 28 January – 01 February 2013*
15. Workshop on results of the program of NAS Ukraine «Astroparticle physics (Kosmomikrofizyka-2)», Institute for Nuclear Research NASU, *Kyiv, Ukraine, 21–22 November 2012*
16. V International Pontecorvo Neutrino Physics School, *Alushta, Crimea, Ukraine, 6–16 September 2012*
17. The 4th International Conference on Current Problems in Nuclear Physics and Atomic Energy, *Kyiv, Ukraine, 3–7 September 2012*
18. 11th CNS International Summer School, Center for Nuclear Study (CNS), the University of Tokyo, *Wako, Saitama, Japan, 29 August – 04 September 2012*
19. French annual PhD student conference "Journes des Doctorants 2012", *Orsay, France, 5-6 April 2012*
20. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 24–27 January 2012*
21. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 25–28 January 2011*
22. International Student Workshop on Neutrinoless Double Beta Decay, *LNGS, Italy, 11–13 November 2010*

23. Carpathian Summer School of Physics 2010 Exotic Nuclei, Nuclear and Particle Astrophysics "From nuclei to stars", *Sinaia, Romania, 20 June – 03 July 2010*
24. The 3rd International Conference on Current Problems in Nuclear Physics and Atomic Energy, *Kyiv, Ukraine, 7–12 June 2010*
25. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 26–29 January 2010*
26. Trans-European School of High Energy Physics, *Zakopane, Poland, 6–16 July 2009*
27. Annual Scientific Conference, Institute for Nuclear Research NASU, *Kyiv, Ukraine, 20–23 January 2009*

Main publications

1. P.Belli et al., *Search for 2β decay of ^{106}Cd with an enriched $^{106}\text{CdWO}_4$ crystal scintillator in coincidence with four HPGe detectors.* Phys. Rev. C 93 (2016) 045502, 9 p.
2. D.M.Chernyak et al., *Effect of tungsten doping on ZnMoO_4 scintillating bolometer performance.* Opt. Materials 49(2015)67-74.
3. E.Armengaud et al., *Development and underground test of radiopure ZnMoO_4 scintillating bolometers for the LUMINEU $0\nu 2\beta$ project.* JINST 10 (2015) P05007.
4. D.M.Chernyak et al., *Rejection of randomly coinciding events in ZnMoO_4 scintillating bolometers.* Eur. Phys. J. C 74 (2014) 2913, 6 p.
5. A.S.Barabash et al., *Enriched $\text{Zn}^{100}\text{MoO}_4$ scintillating bolometers to search for $0\nu 2\beta$ decay of ^{100}Mo with the LUMINEU experiment.* Eur. Phys. J. C 74 (2014) 3133.
6. L.Berge et al., *Purification of molybdenum, growth and characterization of medium volume ZnMoO_4 crystals for the LUMINEU program.* JINST 9 (2014) P06004.
7. D.M.Chernyak et al., *Optical, luminescence and thermal properties of radiopure ZnMoO_4 crystals used in scintillating bolometers for double beta decay search.* Nucl. Instr. Meth. A 729(2013)856.
8. D.M.Chernyak et al., *Random coincidence of $2\nu 2\beta$ decay events as a background source in bolometric $0\nu 2\beta$ decay experiments.* Eur. Phys. J. C 72 (2012) 1989.
9. P.Belli et al., *Search for double- β decay processes in ^{106}Cd with the help of a $^{106}\text{CdWO}_4$ crystal scintillator.* Phys. Rev. C 85 (2012) 044610.
10. A.S.Barabash et al., *Low background detector with enriched $^{116}\text{CdWO}_4$ crystal scintillators to search for double β decay of ^{116}Cd .* JINST 06 (2011) P08011, 24 p.
11. H.J.Kim et al., *Neutrino-less double beta decay experiment using $\text{Ca}^{100}\text{MoO}_4$ scintillation crystals.* IEEE Trans. Nucl. Sci. 57 (2010) 1475.
12. P.Belli et al., *Development of enriched $^{106}\text{CdWO}_4$ crystal scintillators to search for double β decay processes in ^{106}Cd .* Nucl. Instr. Meth. A 615 (2010) 301-306.
13. F.A.Danevich et al., *MgWO_4 – A new crystal scintillator.* Nucl. Instrum. Meth. A 608 (2009) 107.
14. R.B.Podviyanuk, V.V.Kobychev, D.N.Chernyak. *Spectrometer for slow scintillation detectors with pulses shape digitizing.* J. Nucl. Phys. At. En. 10 (2009) 318-325 (in Russian).

December 19, 2016