Curriculum vitae

Surname: Yeremin **First name**: Alexander **Patronymic name**: Vladimirovich
Affiliation and official addres: Flerov Laboratory of Nuclear Reactions (FLNR), Joint Institute for Nuclear Research (JINR), 141980, Moscow region, Dubna
Date and place of birth: 24/11/1956; Magnitogorsk, Russia **Nationality:** Russian
Education: 1974-1978, Physics Department of the Ural State University; Ekaterinbourg;
1978-1980, Physics Department of the Moscow State University;
1995, Candidate of Physics and Mathematics Sciences (Ph.D), JINR
Positions Held: 1980-1990, Junior research Assistant;
1990-1996, Head of Research Group;
1996 – present, Head of Research Sector.
From 1980 up to the present time works at Joint Institute for Nuclear Research
Title: Head of Research Sector
Specialization (specify):
(i) **main field:** Nuclear Physics; nuclear reactions
(ii) **other fields:** Heavy ions physics
(iii) **current research interest:** synthesis of heavy and superheavy nuclei, dynamics of the complete fusion reactions, alpha-, beta-, gamma-spectroscopy

Prizes: I Prize of JINR, 1987; III Prize of JINR, 1991; I Prize of JINR, 2001; II Prize of JINR, 2003; I Prize of JINR, 2004; I Prize of JINR, 2007; II Prize of JINR, 2010; I Prize of JINR, 2016; I Prize of JINR, 2017.

Biographical sketch.

A. Yeremin was born in Magnitogorsk (Russia) in 1956; graduated as a physicist in 1980 from the Moscow State University. In 1980 he joined the Laboratory of Nuclear Reactions, JINR and was involved in experiments aimed to the synthesis of transfermium nuclei. In 1984 he started the design of the kinematic separator VASSILISSA which was commissioned in 1987 and since that time is used in experiments. Main experimental results are the study of heavy ion induced reactions dynamics, formation of "hot" compound nuclei, study of decay properies of new neutron deficient isotopes in U – Pu region (14 new isotopes), synthesis and study of decay properties of new superheavy nuclei (^{283}112 and ^{287}114).

Since 1989 he is a head of a research group, since 1997 – head of research sector. Since 2000 he is a full member of Russian Academy of Natural Sciences. His scientific interests are in heavy ion physics, synthesis and investigation of heavy elements, of rare modes of nuclear disintegration, dynamics of complete fusion reactions induced by heavy ions. He is coauthor of the discovery of new elements with atomic number 110, 111, 112, took part in the experiments aimed to the synthesis and study of decay properties of transfermium elements at GSI, Darmstadt, Germany (velocity filter SHIP), GANIL, Caen, France (velocity filter LISE3), RIKEN, Saitama, Japan (gas filled separator GARIS). A. Yeremin has published more than 150 scientific papers.

CONFERENCES IN 2015 – 2019

1. A.V. Yeremin, oral peresentation:

"Spectroscopy of transfermium isotopes at dubna: results and plans."SHE 2015, Super Heavy Nuclei International Symposium, Texas A & M University, College Station TX, USA, March 31 - April 02, 2015

2. A. Yeremin. oral peresentation:

"SHE synthesis experiments at Dubna." The fourth international EURORIB conference "EURORIB'15", June 7 - 12, 2015, Hohenroda (Hessen), Germany.

3. A. Yeremin. oral peresentation:

"Heavy Elements and Island of Stablity"The international school "Theory challenges for LHC physics", 20-30 July 2015 Joint Institute for Nuclear Research, Bogoliubov Laboratory of Theoretical Physics

4. A. Yeremin, oral peresentation:

"Spectroscopy of transfermium elements at Dubna: Re-sults and plans. " In Proc. of VIII International Symposium on Exotic Nuclei EXON 2016, 5 - 10 September 2016, Kazan, Russia

5. A.V. Yeremin, oral peresentation:

"Spectroscopy of the isotopes of transafermium elements at Dubna: Present status and perspectives." 3rd International Symposium on Super-Heavy Elements “Challenges in the studies of super-heavy nuclei and atoms”. SHE 2017. September 10 – 14, 2017, Kazimierz Dolny, Poland.

6. A. Yeremin, oral peresentation:

"Velocity filter SHELS at the U400 FLNR cyclotron: performance and experimental results". 41st European Cyclotron Progress Meeting, JINR, Dubna, Russia, 02 - 06 September 2018.

7. A. Yeremin, poster presentation:

"Velocity filter SHELS: performance and experimental results". 18 th International Conference on Electromagnetic Isotope Separators and Related Topics (EMIS-2018). CERN Geneva, Switzerland, 16 - 21 September, 2018.

8. A. V. Yeremin. oral peresentation:

"Spectroscopy of the isotopes of transfermium elements in Dubna: present status and perspectives." LXIX International Conference “Nucleus – 2019”, Dubna, Russia 1-5 July 2019.

9. A. Yeremin, oral peresentation:

"Spectroscopy of transfermium isotopes in Dubna: present status and perspectives." 4th International Symposium “Super Heavy Elements 2019” (SHE2019), Hakone, Japan, 1-5 December 2019.

SELECTED PUBLICATIONS FOR 2015 – 2020

1. A. V. Yeremin, A. G. Popeko, O. N. Malyshev, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. Gall, V. I. Chepigin, A. I. Svirikhin, A. V. Isaev, E. A. Sokol, M. L. Chelnokov, A. N. Kuznetsov, A. A. Kuznetsova, A. V. Belozerov, K. Rezynkina, F. Dechery, F. Le Blanc, J. Piot, J. Gehlot, D. Tonev, E. Stefanova, D. Pantelika, C. Nita, B. Andel, S. Mulins, P. Jones, and S. Ntshangase, "First Experimental Tests of the Modernized VASSILISSA Separator" PEPAN Letters, 12 N1 (2015) pp. 35-42.

2. A. V. Yeremin, A. G. Popeko, O. N. Malyshev, B. Gall, Z. Asfari, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. N. Gikal, S. L. Bogomolov, V. N. Loginov, V. I. Chepigin, A. I. Svirikhin, A. V. Isaev, E. A. Sokol, M. L. Chelnokov, A. N. Kuznetsov, A. A. Kuznetsova, Yu. A. Popov, K. Rezynkina, F. Dechery, B. Andel, S. Hofmann, J. Maurer, S. Heinz, and J. Rubert, "Experimental Tests of the Modernized VASSILISSA Separator (SHELS) with the Use of Accelerated 50Ti Ions." PEPAN Letters, 12 N1 (2015) pp. 43-47.

3. A.I. Svirikhin, Mohini Gupta, A. V. Yeremin, I.N. Izosimov, A. V. Isaev, Sergey Nikolaevich Kuznetsovm Malyshev Olegm S. M. Mullins, A. G. Popeko, Sokol Evgeny, M.L. Chelnokov, V. I. Chepigin. "The investigation of properties of short-lived SF isotopes (Z > 100) at the focal plane of VASSILISSA separator."." ИЗВЕСТИЯ РАН. СЕРИЯ ФИЗИЧЕСКАЯ, 2015, том 79, № 4, с. 483–490

4. A. Yeremin, O. Malyshev, A. Popeko, V. Chepigin, A. Svirikhin, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. Gall, and J. Gehlot. First experimental tests of the kinematic separator SHELS (Separator for Heavy ELement Spectroscopy). EPJ Web of Conferences 86, 00065 (2015). DOI: 10.1051/epjconf/20158600065

5. K. Rezynkina, K. Hauschild, A. Lopez-Martens1 O. Dorvaux, B. Gall, F. Dechery, H. Faure, J. Rubert, A.V. Yeremin, M.L. Chelnokov, V.I. Chepigin, A.V. Isaev, I.N. Izosimov, D.E. Katrasev, A.N. Kuznetsov, A.A. Kuznetsova, O.N. Malyshev, A.G. Popeko, A.Y. Popov, E.A. Sokol, A.I. Svirikhin, "First experimental tests of SHELS: a new heavy ion separator at the JINR. 2014 Acta Physica Polonica B, 03/2015, 46(3) 623, DOI,10.5506/APhysPolB.46.623

6. H.M. Devaraja, G. Munzenberg, R.A. Henderson, J. Maurer, S. Heinz, K. Nishio, F.P. He?berger, R. Mann, O. Beliuskina, D. Ackermann, A.G. Popeko, V. Comas, Y.K. Gambhir, J. Khuyagbaatar, D.A. Shaughnessy, S. Hofmann, B. Kindler, M. Gupta, C. Hornung, B. Lommel, M.A. Stoyer, K.J. Moody, A.V. Yeremin "Observation of new neutron-de?cient isotopes with Z ? 92 in multinucleon transfer reactions."
Physics Letters B 748 (2015) 199–203

7. A.G Popeko, A.V. Yeremin, O.N. Malyshev, V.I. Chepigin, A.V. Isaev, Yu.A.Popov , A.I. Svirikhin, K. Hauschild, A. Lopez-Martens, K. Rezynkina, O. Dorvaux. "Separator for heavy element spectrosco-py – velocity filter SHELS." Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Volume 376, 1 June 2016, Pages 140-143 DOI 10.1016/j.nimb.2016.03.045

8. A.I. Svirikhin, A.V. Yeremin, I.N. Izosimov, A.V. Isaev, A.N. Kuznetsov, O.N. Malyshev, A.G. Popeko, Yu.A. Popov, E.A. Sokol, M.L. Chelnokov, V.I. Chepigin, B. Andel, M.Z. Asfari, B. Gall, N Yoshihiro, Z Kalaninova, S. Mullins, J. Piot, E. Stefanova, D. Tonev. "Spontaneous fission of 256Rf – new data." Physics of Particles and Nuclei Letters, 2016, Vol. 13, No. 4, pp. 480–482

9. S. Hofmann, S.Heinz,R.Mann,J.Maurer,G.M?unzenberg, S. Antalic, W. Barth,L.Dahl, R. Grzywacz, J.H. Hamilton, R.A. Henderson, J.M. Kenneally, B. Kindler,I.Kojouharov, B. Lommel,K.Miernik, D. Miller,K.J.Moody, K. Morita, K.Nishio,A.G.Popeko, J. Runke, K.P. Rykaczewski, C. Scheidenberger, D.A. Shaughnessy, M.A. Stoyer,K.Eberhardt,R.Lang, J.B. Roberto,P.Th?orle-Pospiech, K. Tinschert, N. Trautmann, J. Uusitalo, and A.V. Yeremin, "Remarks on the ?ssion barriers of super-heavy nuclei."
Eur. Phys. J. A (2016) 52: 116 DOI 10.1140/epja/i2016-16116-0

10. S. Hofmann, S.Heinz, R.Mann, J.Maurer, G.M?unzenberg, S. Antalic, W.Barth, H.G. Burkhard, L. Dahl, K.Eberhardt, R.Grzywacz, J.H. Hamilton, R.A. Henderson, J.M. Kenneally, B. Kindler, I. Kojouharov, R.Lang, B. Lommel, K. Miernik, D. Miller, K.J.Moody, K. Morita, K. Nishio, A.G. Popeko, J.B. Roberto, J. Runke, K.P. Rykaczewski, S.Saro, C. Scheidenberger, H.J.Sch?ott, D.A. Shaughnessy, M.A. Stoyer, P.Th?orle-Pospiech, K. Tinschert, N. Trautmann, J. Uusitalo and A.V. Yeremin
"Review of even element super-heavy nuclei and search for element 120." Eur. Phys. J. A (2016) 52: 180
DOI 10.1140/epja/i2016-16180-4

11. R. Caballero-Folch, C. Domingo-Pardo, J. Agramunt, A. Algora, F. Ameil, A. Arcones, Y. Ayyad, J. Benlliure, I.N. Borzov, M. Bowry, F. Calvino, D. Cano-Ott, G. Cortes, T. Davinson, I. Dillmann, A. Estrade, A. Evdokimov, T. Faestermann, F. Farinon, D. Galaviz, A.?R. Garcia, H. Geissel, W. Gelletly, R. Gernhauser, M.B. Gomez-Hornillos, C. Guerrero, M. Hei, C. Hinke, R. Knobe, I. Kojouharov, J. Kurcewicz, N. Kurz, Yu.A. Litvinov, L. Maier, J. Marganiec, T. Marketin, M. Marta, T. Martinez, G. Martinez-Pinedo, F. Montes, I. Mukha, D.R. Napoli, C. Nociforo, C. Paradela, S. Pietri, Zs. Podolyak, A. Prochazka, S. Rice, A. Riego, B. Rubio, H. Schaffner, Ch. Scheidenberger, K. Smith, E. Sokol, K. Steiger, B. Sun, J.L. Tain, M. Takechi, D. Testov, H. Weick, E. Wilson, J.S. Winfield, R. Wood, P. Woods, and A. Yeremin "First Measurement of Several ? -Delayed Neutron Emitting Isotopes Beyond N=126." Phys. Rev. Lett. 117, 012501 – Published 29 June 2016 DOI:http://dx.doi.org/10.1103/PhysRevLett.117.012501

12. S. Heinz, H.M. Devaraja, O. Beliuskina, V. Comas, S. Hofmann, C. Hornung, G. M?unzenberg, D. Ackermann, M. Gupta, R.A. Henderson, F.P. Hessberger, B. Kindler, B. Lommel, R. Mann, J. Maurer, K.J. Moody, K. Nishio, A.G. Popeko, D.A. Shaughnessy, M.A. Stoyer and A.V. Yeremin, "Synthesis of new transuranium isotopes in multinucleon transfer reactions using a velocity filter." Eur. Phys. J. A (2016) 52: 278 DOI 10.1140/epja/i2016-16278-7

13. Nikolay V. Aksenov, Patrick Steinegger, Farid Sh. Abdullin, Yury V. Albin, Gospodin A. Bozhikov, Viktor I. Chepigin, Robert Eichler, Vyacheslav Ya. Lebedev, Alexander Sh. Madumarov, Oleg N. Malyshev, Oleg V. Petrushkin, Alexander N. Polyakov, Yury A. Popov, Alexey V. Sabel'nikov, Roman N. Sagaidak, Igor V. Shirokovsky, Maksim V. Shumeiko, Gennadii Ya. Starodub, Yury S. Tsyganov, Vladimir K. Utyonkov, Alexey A. Voinov, Grigory K. Vostokin, Alexander V. Yeremin, and Sergey N. Dmitriev
"On the Volatility of Nihonium (Nh, Z = 113)". Eur. Phys. J. A (2017) 53: 158 DOI 10.1140/epja/i2017-12348-8

14. A.I. Svirihin, A.V. Andreev, A.V. Eremin, I.N. Izosimov, A.V. Isaev, A.N. Kuznetsov, A.A. Kuznetsova, O.N. Malyshev, A.G. Popeko, Y.A. Popov, E.A. Sokol, M.L. Chelnokov, V.I. Chepigin, T.M. Schneidman, B. Gall, O. Dorvaux, P. Brionett, K. Hauschild, A. Lopez-Martenz, K. Rezynkina, S. Mullins, P. Jones, P. Mosat. "Characteristics of Spontaneous Fission of 250No." Physics of Particles and Nuclei Letters, 2017, Vol. 14, No. 4, pp. 571–575. © Pleiades Publishing, Ltd., 2017.

15. R. Caballero-Folch, C. Domingo-Pardo, J. Agramunt, A. Algora, F. Ameil, A. Arcones, Y. Ayyad, J. Benlliure, I.N. Borzov, M. Bowry, F. Calvino, D. Cano-Ott, G. Cortes, T. Davinson, I. Dillmann, A. Estrade, A. Evdokimov, T. Faestermann, F. Farinon, D. Galaviz, A.?R. Garcia, H. Geissel, W. Gelletly, R. Gernhauser, M.B. Gomez-Hornillos, C. Guerrero, M. Hei, C. Hinke, R. Knobe, I. Kojouharov, J. Kurcewicz, N. Kurz, Yu.A. Litvinov, L. Maier, J. Marganiec, T. Marketin, M. Marta, T. Martinez, G. Martinez-Pinedo, F. Montes, I. Mukha, D.R. Napoli, C. Nociforo, C. Paradela, S. Pietri, Zs. Podolyak, A. Prochazka, S. Rice, A. Riego, B. Rubio, H. Schaffner, Ch. Scheidenberger, K. Smith, E. Sokol, K. Steiger, B. Sun, J.L. Tain, M. Takechi, D. Testov, H. Weick, E. Wilson, J.S. Winfield, R. Wood, P. Woods, and A. Yeremin. "β-decay half-lives and β-delayed neutron emission probabilities for several isotopes of Au, Hg, Tl, Pb, and Bi, beyond N = 126." PHYSICAL REVIEW C 95, 064322 (2017) 2469-9985/2017/95(6)/064322(16)

16. K. Rezynkina, A. Lopez-Martens, K. Hauschild, I. Deloncle, S. Peru, P. Brionnet, M.L. Chelnokov, V.I. Chepigin, O. Dorvaux, F. Dechery, H. Faure, B. Gall, A.V. Isaev, I.N. Izosimov, D.E. Katrasev, A.N. Kuznetsov, A.A. Kuznetsova, O.N. Malyshev, A.G. Popeko, Y.A. Popov, E.A. Sokol, A.I. Svirikhin, and A.V. Yeremin "The influence of octupole vibration on the low-lying structure of 251Fm and other heavy N=151 isotones." DOI: 10.1103/PhysRevC.97.054332

17. A.I. Svirikhin, A. V. Yeremin, A. V. Andreev, I.N. Izosimov, A. V. Isaev, S.N. Kuznetsov, A. A. Kuznetsova, Malyshev Oleg, A. G. Popeko, Y. A. Popov, Sokol Evgeny, M.L. Chelnokov, V. I. Chepigin, T. M. Schneidman, B. Gall, O. Dorvaux, P. Brionett, Karl Hauschild, A. Lopez-Martenz, Kseniia Rezynkina, S. M. Mullins, P. Jones, P. Mosat, B. Andel, Z. Kalaninova, M. Z. Asfari, N. Yoshihiro, Julien Piot, E. Stefanova, D. Tonev. "Short-Lived Isotopes of Transfermium Elements: Studying Characteristics of Spontaneous Fissioning." Bulletin of the Russian Academy of Sciences Physics 82(6):632-636
DOI: 10.3103/S1062873818060308

18. A.V. Isaev, A.I. Svirikhin, A.V. Andreev, A.V. Yeremin, I.N. Izosimov, A.N. Kuznetsov, A.A. Kuznetsova, O.N. Malyshev, A.G. Popeko, Yu.A. Popov, "Investigation of the spontaneous fission properties of neutron-deficient nobelium isotopes." Eurasian Journal of Physics and Functional Materials, Volume 3, pp 58-62; doi:10.29317/ejpfm.2019030108

19. H.M. Devarajaa, S. Heinz, O. Beliuskina, S. Hofmann, C. Hornung, G.Munzenberg, D. Ackermann, M. Gupta, Y.K. Gambhir, R.A. Henderson, F.P.Hessberger, A.V. Yeremin, B. Kindler, B. Lommel, J. Maurer, K.J. Moody, K.Nishio, A.G. Popeko, M.A. Stoyer, D.A. Shaughnessy Population of nuclides with $Z \geq 98$ Z ? 98 in multi-nucleon transfer reactions of 48Ca + 248Cm." Eur. Phys. J. A (2019) 55:25
DOI 10.1140/epja/i2019-12696-3

20. A. Lopez-Martens, A.V. Yeremin, M.S. Tezekbayeva, Z. Asfari, P. Brionnet, O. Dorvaux, B. Gall, K. Hauschild, D. Ackermann, L. Caceres, M.L. Chelnokov, V.I. Chepigin, M.V. Gustova, A.V. Isaev, A.V. Karpov, A.A. Kuznetsova, J. Piot, O.N. Malyshev, A.G. Popeko, Yu.A. Popov, K. Rezynkina, H. Savajols, A.I. Svirikhin, E.A. Sokol, and P. Steinegger. "Measurement of proton-evaporation rates in fusion reactions leading to transfermium nuclei." Phys. Lett. B. Volume 795, 10 August 2019, Pages 271-276

21. A. V. Yeremin, M. S. Tezekbayeva, A. G. Popeko, O. N. Malyshev, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. Gall, A. V. Isaev, A. V. Karpov, A. N. Kuznetsov, A. A. Kuznetsova, Yu. A. Popov, A. I. Svirikhin, E. A. Sokol, M. L. Chelnokov, V. I. Chepigin, and P. Moshat. "Measurement of the Production Cross Sections for Isotopes of Transfermium Elements in Complete Fusion Reactions with the Subsequent Evaporation of a Proton and Neutrons". Physics of Particles and Nuclei Letters, 2019, Vol. 16, No. 3, pp. 224–228.

22. A.I. Svirikhin, A.V. Andreev, A.V. Yeremin, Н.И. Zamyatin, I.N. Izosimov, A.V. Isaev, A.N. Kuznetsov, A.A. Kuznetsova, O.N. Malyshev, A.G. Popeko, Y.A. Popov, E.A. Sokol, M.S. Tezekbayeva, M.L. Chelnokov, V.I. Chepigin, T.M. Schneidman, B. Andel, S. Antalic, A. Bronis, P. Mosat, B. Gall, O. Dorvaux, B.M. Retailleau, K. Hauschild, A. Lopez-Martenz, P. Chauveau, E. Stefanova, D. Tonev.
"PROMPT NEUTRONS OF 254RF SPONTANEOUS FISSION", Physics of Particles and Nuclei Letters, 2019, Vol. 16, No. 6, pp. 768–771. 2019.

23. A. Yeremin, A. Lopes-Martens, K. Hauschild, A. Popeko, O. Malyshev, V. Chepigin, A. Svirikhin, A. Isaev, Yu. Popov, M. Chelnokov, A. Kuznetsova, M. Tezekbaeva, O. Dorvaux, B. Gall, Z. Asdfari, J. Piot, S. Antalic "Velocity filter SHELS: performance and experimental results." Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, v. 463 (2020) p. 219-220.

24. A. A. Kuznetsova, A. V. Yeremin, A. Lopez-Martens, K. Hauschild, A. G. Popeko, O. N. Malyshev, V. I. Chepigin, A. I. Svirikhin, A. V. Isaev, Yu. A. Popov, M. L. Chelnokov, O. Dorvaux, B. Gall, M. S. Tezekbayeva. “DETAILED STUDY OF RADIOACTIVE DECAY PROPERTIES OF No, Rf AND Db ISOTOPES.“ Bulletin of the Russian Academy of Sciences Physics, 2020, 84(8): 1134-1140

25. A. V. Yeremin, A. G. Popeko, O. N. Malyshev, A. V. Isaev, A. A. Kuznetsova, Yu. A. Popov, A. I. Svirikhin, E. A. Sokol, M. S. Tezekbayeva, M. L. Chelnokov, V. I. Chepigin, A. Lopez-Martens, K. Hauschild, O. Dorvaux, B. Gall, J. Piot, S. Antalic, P. Mosat, D. Tonev, E. Stefanova. "Spectroscopy of the isotopes of transfermium elements in Dubna: present status and perspectives." Physics of Atomic Nuclei, 2020, Vol. 83, No. 4, pp. 503–512