

BOGOLIUBOV LABORATORY OF THEORETICAL PHYSICS: International centre of excellence in scientific research

E. M. Anitas

Deputy Director of BLTP, JINR

JINR: an international intergovernmental organization, a world-famous scientific centre that integrates fundamental theoretical and experimental research with the development and application of advanced technology and university education.



- 16 Member States: Armenia, Azerbaijan, Belarus, Bulgaria, Cuba, Arab Republic of Egypt, Georgia, Kazakhstan, D. P. Republic of Korea, Moldova, Mongolia, Romania, Russia, Slovakia, Uzbekistan and Vietnam.
- 5 Associated Members: Germany, Hungary, Italy, the Republic of South Africa and Serbia.
- Large infrastructure projects: NICA, Baikal-GVD, SHE factory, IBR-2 reactor, Govorun supercomputer.
- Cooperation with ~ 900 institutes and universities from ~ 70 countries.
- Extensive collaborations with international centres: UNESCO, CERN, ICTP etc.
- > > 400 international personnel from 34 countries.
- > > 1500 scientific papers published per year.





Dzhelepov Laboratory



Veksler and Baldin Laboratory of High Energy Physics

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Frank Laboratory of Neutron Physics

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Bogoliubov Laboratory of Theoretical Physics

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Theoretical Physics Relativistic Heavy Ion Physics Spin Physics Particle Physics Low Energy Nuclear Physics **Nuclear Neutron Physics**

Condensed Matter Physics

Neutrino & Astroparticle Physics

Life sciences:

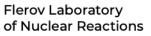
Radiobiology Biomedicine Structural Biology Astrobiology Ecology

IT & High-performance computing

Outreach & Education







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Laboratory of Radiation Biology





Theory of Fundamental Interactions

Theory of Condensed Matter Theory of Atomic Nucleus

Modern Mathematical Physics 33% of JINR publications

>500 scientific papers published per year



~15 annual scientific meetings



Personnel: 41 members

- > Master and PhD students -4,
- > Candidates of Science -20,
- \succ Doctors of Science 16,
- ➤ Corresponding Members of RAS 1.

- > **Project 1**: Complex materials
- Project 2: Mathematical models of statistical physics of complex systems
- > **Project 3**: Nanostructures and nanomaterials
- Project 4: Methods of quantum field theory in complex systems

Publications (2019-2022):

- ➤ 268 papers: NPG, APS, RCS, IOP, Elsevier, etc.
- 54 papers published by APS (i.e. in Phys. Rev. A, Phys. Rev. B, Phys. Rev. D., Phys. Rev. E., Phys. Rev. Matter., Phys. Rev. Res., Phys. Rev. Appl., Phys. Rev. X).
- 9 books and chapter books (Springer Nature, World Scientific etc).

AMMTP: Lecturers



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PHYSICS OF ELEMENTARY PARTICLES AND ATOMIC NUCLEI. THEORY | Published: 26 July 2022 Lagrangian Geometry of Algebraic Manifolds

<u>N. A. Tyurin</u> 🖂

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 J. Honkonen, M. Komarova, Yu. Molotkov, M. Nalimov, and A. Trenogin Phys. Rev. E 106, 014126 - Published 19 July 2022

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Regular Article - Theoretical Physics | <u>Open Access</u> | <u>Published: 12 June 2023</u> Ladder and zig-zag Feynman diagrams, operator formalism and conformal triangles

S. E. Derkachov, A. P. Isaev & L. A. Shumilov

Journal of High Energy Physics 2023, Article number: 59 (2023) Cite this article

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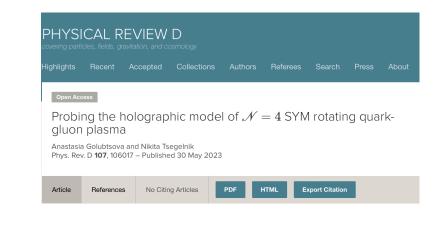
Published: 20 November 2019

Static Approach to Renormalization Group Analysis of Stochastic Models with Spatially Quenched Noise

N. V. Antonov, P. I. Kakin 🖂 & N. M. Lebedev

Journal of Statistical Physics 178, 392–419 (2020) Cite this article

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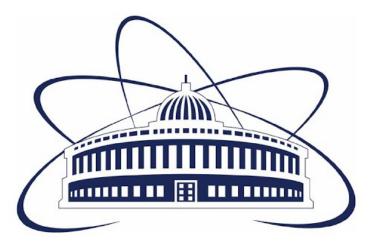
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E. A. Davydov, D. V. Fursaev, and V. A. Tainov Phys. Rev. D **105**, 083510 – Published 12 April 2022

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