

DRP Online Workshop on Mathematical Physics

December 5-6, 2020

December 5

Chair: Akaki Rusetsky

- 10:45-11:00 **Ulf.-G.Meißner**, *Bonn University*
Opening
- 11:00-11:45 **Gleb Arutyunov**, *Hamburg University*
New integrable coset sigma-models
- 11:45-12:15 **Gia Georgadze**, *Tbilisi State University*
Exactly solvable models in quantum mechanics and their application in quantum computing

Chair: Sergey Fedoruk

- 13:00-13:30 **Hrachya Babujian**, *Yerevan Physics Institute*
Correlation Functions of Classical and Quantum Artin System defined on Lobachevsky Plane
- 13:30-14:00 **Erik Khastyan**, *Yerevan Physics Institute*
Noncompact CP^N as a phase space of superintegrable systems
- 14:00-14:30 **Maneh Avetisyan**, *Yerevan Physics Institute*
Universal quantum dimensions and configurations of points and lines
- 14:30-15:00 **Seda Vardanyan**, *Yerevan State University*
Symmetry algebra of dynamical and discrete Calogero models

Chair: Tigran Hakobyan

- 16:00-16:30 **Merab Gogberashvili**, *Tbilisi State University*
Split-Quaternion Analyticity and $(2+1)$ Electrodynamics
- 16:30-17:00 **Alexander Gurchumelia**, *Tbilisi State University*
Split Octonions and Triality in $(4+4)$ -Space
- 17:00-17:30 **Vadim Ohanyan**, *Yerevan State University*
Electric field driven flat bands in $S = 1/2$ sawtooth chain
- 17:30-18:00 **Grigol Peradze**, *Tbilisi State University*
Solitons in normal Fermi liquid

December 6

Chair: Sergey Krivonos

- 11:00-11:45 **Olaf Lechtenfeld**, *Leibniz Universitat Hannover*
From Yang-Mills in de Sitter space to electromagnetic knots
- 11:45-12:15 **Ruben Manvelyan**, *Yerevan Physics Institute*
Local quartic interaction of scalars with higher spin gauge fields and commutator of linear gauge transformations

Chair: Ruben Mkrtchyan

- 13:00-13:30 **George Jorjadze**, *Georgian Free University*
On the S-matrix of Liouville theory
- 13:30-14:00 **Mikhail Podoinitsyn**, *Joint Institute for Nuclear Research, Dubna*
Massless finite and infinite spin representations of Poincaré group in six dimensions
- 14:00-14:30 **Tinatini Supatashvili**, *Tbilisi State University*
Bogomolny equations from the Pseudo Analytic Functions Viewpoint
- 14:30-15:00 **Ioane Shengelia**, *Tbilisi State University*
Computations on conformal modulus of Quadrilaterals

Chair: George Jorjadze

- 16:00-16:30 **Anton Sutulin**, *Joint Institute for Nuclear Research, Dubna*
 $\mathcal{N} = 2$ Calogero models within superfields
- 16:30-17:00 **Nikolay Kozyrev**, *Joint Institute for Nuclear Research, Dubna*
New approach to supersymmetric Ruijersnaars-Sneider model
- 17:00-17:30 **Stepan Sidorov**, *Joint Institute for Nuclear Research, Dubna*
 $SU(2|1)$ supersymmetric spinning models of chiral superfields
- 17:30-18:00 **Hovhannes Shmavonyan**, *Yerevan Physics Institute*
Symmetries of deformed supersymmetric mechanics on Kahler manifolds
- 18:00 Closing