Symmetry and Integrability of Equations of Mathematical Physics

(December 17-18 2021)

Workshop program

We use eastern Europe time (Kyiv local time).

The workshop working languages are Ukrainian and English (it is speaker's choice).

Link to connect to all meetings: https://bbb.imath.kiev.ua/b/dep-evh-zz9-ua9

December 17 (Friday)

14:00

Nikitin A. (Institute of mathematics of NAS of Ukraine, Kyiv)

Introductory words about Wilhelm Fushchych

14:15

Nikitin A. (Institute of mathematics of NAS of Ukraine, Kyiv)

Superintegrable quantum mechanics systems with variable mass, invariant with respect to three-parametric Lie groups

https://www.imath.kiev.ua/~appmath/Abstracts2021/Nikitin.html

14:45

Tychynin V. (Prydniprovska State Academy of Civil Engineering and Architecture, Dnipro)

The adjoint solutions for the initial equations K-dv, Schwarzian-Kdv and H D

https://www.imath.kiev.ua/~appmath/Abstracts2021/Tychynin.html

15:15

Lokaziuk O. (Institute of mathematics of NAS of Ukraine, Kyiv)

Realizations of Lie algebras on the line and group classification of (1+1) – dimensional generalized nonlinear Klein – Gordon equations

https://www.imath.kiev.ua/~appmath/Abstracts2021/Lokaziuk.html

15:30

Popovych D.R. (Institute of mathematics of NAS of Ukraine, Kyiv)

Flags of subalgebras and other structures under contractions of Lie algebras

https://www.imath.kiev.ua/~appmath/Abstracts2021/Popovych_D.html

15:45-16:00 Break for tea, coffee and online communication

December 17 (Friday)

16:00

Bihlo A.[1], Cardoso-Bihlo E. [1], Popovych R.[2] ([1]Memorial University of Newfoundland, Canada; [2] University of Vienna, Austria and Institute of Mathematics, Kyiv)

Invariant parameterization schemes for turbulence modeling

https://www.imath.kiev.ua/~appmath/Abstracts2021/Bihlo.html

16:30

Koval S. (Memorial University of Newfoundland, Canada; Kyiv Academic University, Kyiv)

Equivalence transformations and group classification of (1+2)-dimensional degenerate Fokker-Planck equations

https://www.imath.kiev.ua/~appmath/Abstracts2021/Koval_en.pdf

16:45

Maltseva D. (Taras Shevchenko National University of Kyiv, Kyiv)

Symmetry analysis and exact solutions of Boiti-Leon-Pempinelli system

https://www.imath.kiev.ua/~appmath/Abstracts2021/Maltseva.html

17:00

Brandenberg R.[1], von Dichter K. [1], González Merino B. [2] ([1]Technical University of Munich, Germany; [2]University of Murcia, Spain)

Arithmetic-harmonic mean inequality for symmetrizations of convex sets

https://www.imath.kiev.ua/~appmath/Abstracts2021/Dichter.pdf

17:15

Yegorchenko I. (Institute of mathematics of NAS of Ukraine, Kyiv)

Conditional and hidden infinite-dimensional symmetries of wave equations

https://www.imath.kiev.ua/~appmath/Abstracts2021/Yegorchenko.html

17:35

Yuryk I. (National University of Food Technology, Kyiv)

Reduction of unitary irreducible representations of the Poincare group P(1,n) with respect to representations of its subgroups https://www.imath.kiev.ua/~appmath/Abstracts2021/Yuryk.html

December 18 (Saturday)

10:00

Vladimirov V. (AGH University of Science and Technology, Kraków, Poland)

Soliton-like solutions in a nonlocal fluid dynamic model

https://www.imath.kiev.ua/~appmath/Abstracts2021/Vladimirov_Skurativskyj.html

10:30

Samoilenko V., Samoilenko Y. (Taras Shevchenko National University of Kyiv)

Singularly perturbed equations of integrable type: construction and analysis of asymptotic solutions

https://www.imath.kiev.ua/~appmath/Abstracts2021/Samoilenko.html

11:00

Boyko V. (Institute of mathematics of NAS of Ukraine, Kyiv)

Admissible transformations and group classification of linear systems of second-order ordinary differential

equations https://www.imath.kiev.ua/~appmath/Abstracts2021/Boyko.html

11:30-11:45 Break for tea, coffee and online communication

December 18 (Saturday)

11:45

Tsyfra I. (AGH University of Science and Technology, Krakow, Poland)

Reduction of nonlinear equations of evolution and wave types using the method of non-point symmetry

https://www.imath.kiev.ua/~appmath/Abstracts2021/Tsyfra.html

12:15

Fedorchuk V.M. (Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of NAS of

Ukraine, Lviv) On the Poincare group P (1,4) and its subgroups

https://www.imath.kiev.ua/~appmath/Abstracts2021/Vasyl_Fedorchuk_Volodymyr_Fedorchuk.pdf

12:45

Spichak S. (Institute of mathematics of NAS of Ukraine, Kyiv)

Classification of vector fields on a circle: equivalence transformation, realizations, combinatorial formulas

https://www.imath.kiev.ua/~appmath/Abstracts2021/Spichak.html

13:05

Nesterenko M. (Institute of mathematics of NAS of Ukraine, Kyiv) Mathematical models of quasicrystals

https://www.imath.kiev.ua/~appmath/Abstracts2021/Nesterenko.html

13:25

Vaneeva O. (Institute of mathematics of NAS of Ukraine, Kyiv)

Group analysis of the class of generalized Kawahara equations: reductions and contractions

https://www.imath.kiev.ua/~appmath/Abstracts2021/VaneevaZhalijMagda.pdf