

International scientific conference  
«Algebraic and geometric methods  
of analysis»

Book of abstracts



May 31 - June 5, 2017  
Odessa  
Ukraine

## LIST OF TOPICS

- Algebraic methods in geometry
- Differential geometry in the large
- Geometry and topology of differentiable manifolds
- General and algebraic topology
- Dynamical systems and their applications
- Geometric problems in mathematical analysis
- Geometric and topological methods in natural sciences
- History and methodology of teaching in mathematics

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- The Institute of Mathematics of the National Academy of Sciences of Ukraine
- Taras Shevchenko National University of Kyiv
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НТБ ОНАФТ

## Geometry and integrability of pentagram maps

**Boris Khesin**

(University of Toronto)

*E-mail:* boris.khesin@gmail.com

We define pentagram maps on polygons in any dimension, which extend R.Schwartz's definition of the 2D pentagram map. Many of those maps turn out to be discrete integrable dynamical systems, while the corresponding continuous limits of such maps coincide with equations of the KdV hierarchy, generalizing the Boussinesq equation in 2D. We discuss their geometry, Lax forms, and interrelations between recent pentagram generalizations. This is a joint work with Fedor Soloviev.

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