

International
Scientific Conference



Algebraic
and Geometric
Methods
of Analysis

27-30 May 2024
Odesa, Ukraine

The purpose of this conference is to bring together researchers in geometry, topology, algebra, analysis and dynamical systems and to provide for them a forum to present their recent work to colleagues from different nationalities. This way we aim to stimulate discussion about the latest findings in geometrical and topological methods in analysis and to increase international collaboration.

The conference continues the traditional annual conference «Geometry in Odesa» holding from 2004, and hosted by Odesa National University of Technology (Odesa National Academy of Food Technologies till 2021). From 2017 the conference was renamed to «Algebraic and geometric methods of analysis» (AGMA).

The Conference languages: Ukrainian and English.

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 and topological methods in natural sciences
- Geometric problems in mathematical analysis

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- Odesa National University of Technology, Ukraine
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- Kyiv Mathematical Society

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(iii) An equation of the form (3) admits the conservation-law characteristic u_{xx} or u_{yy} if and only if $a = b = 0$ or $a = c = 0$, respectively.

Theorem 6. An r th order ($r \in \{1, 2, 3\}$) partial differential equation with three independent variables admits the algebra \mathfrak{g} as its Lie invariance algebra and the conservation-law characteristics 1, u_{xx} and u_{yy} if and only if it coincides with the dispersionless Nizhnik equation (1).

The presented properties of the equation (1) are used in [4] to construct its exact solutions.

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Chain-regular and regular components of the wandering set of surface homeomorphisms

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Regular components of the wandering set of surface homeomorphisms were introduced by Birkhoff [1, 2]. With the emergence of the chain recurrent set theory introduced by Conley [3] for flows and adapted for discrete dynamical systems by Franks and Hurley [4, 5] we can define an analog of regular components of the wandering set for the set of chain-regular points (points that are not chain recurrent) as the set of points that divide an attractor-repeller pair.

We study the topology of chain-regular components of surface homeomorphisms and show that it is in fact different from the topology of regular components of the wandering set.

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