

International
Online Conference



**Algebraic
and Geometric
Methods of Analysis**

dedicate to the memory
of Yuriy Trokhymchuk
(17.03.1928-18.12.2019)

May 25-28, 2021
Odesa, Ukraine

LIST OF TOPICS

- Topological methods in analysis
- Geometric problems of complex and mathematical analysis
- Algebraic methods in geometry
- Differential geometry in the whole
- Geometry and topology of differentiable manifolds
- General and algebraic topology
- Geometric and topological methods in natural sciences

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Matrix problems, triangulated categories and stable homotopy types

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The talk is a survey of some results on classifications of stable homotopy types of polyhedra (finite CW-complexes). We present technical tools for calculations in triangulated categories, which are related to *matrix problems*, namely, to *bimodule categories*. Applying this technique to the stable homotopy category [1] we obtain a complete classification of stable homotopy types of polyhedra having cells at most in 4 successive dimensions and of torsion free polyhedra having cells at most in 7 successive dimensions. For details, see [2, 3]. These results were mainly obtained in collaboration with H.-J. Baues.

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