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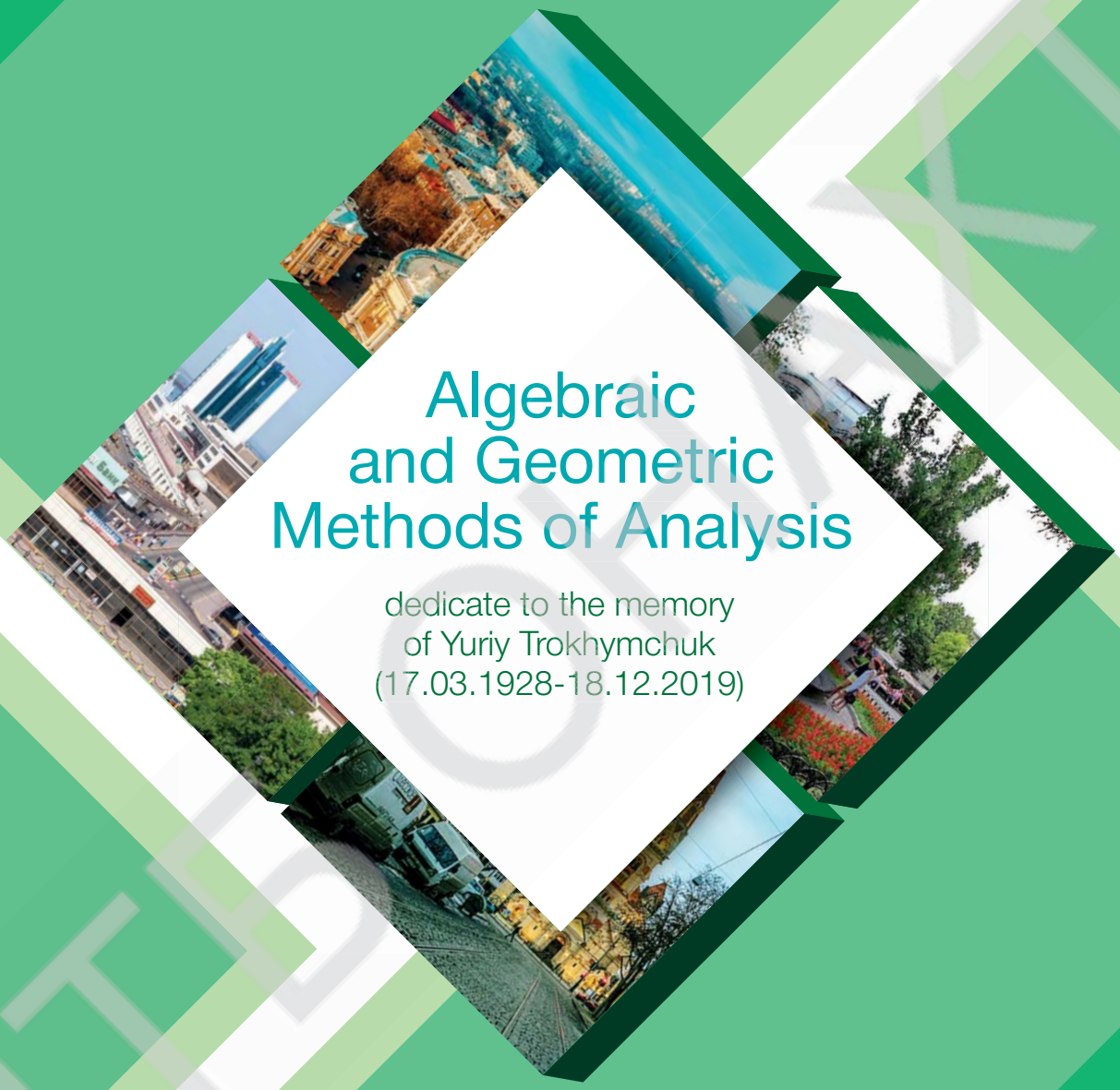

Algebraic and Geometric Methods of Analysis

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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Volumes of knots and links in spaces of constant curvature

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We investigate the existence of hyperbolic, spherical or Euclidean structure on cone-manifolds whose underlying space is the three-dimensional sphere and singular set is a given knot or link. For two-bridge knots with not more than seven crossings we present trigonometrical identities involving the lengths of singular geodesics and cone angles of such cone-manifolds. Then these identities are used to produce exact integral formulae for the volume of the corresponding cone-manifold modeled in the hyperbolic, spherical and Euclidean geometries.