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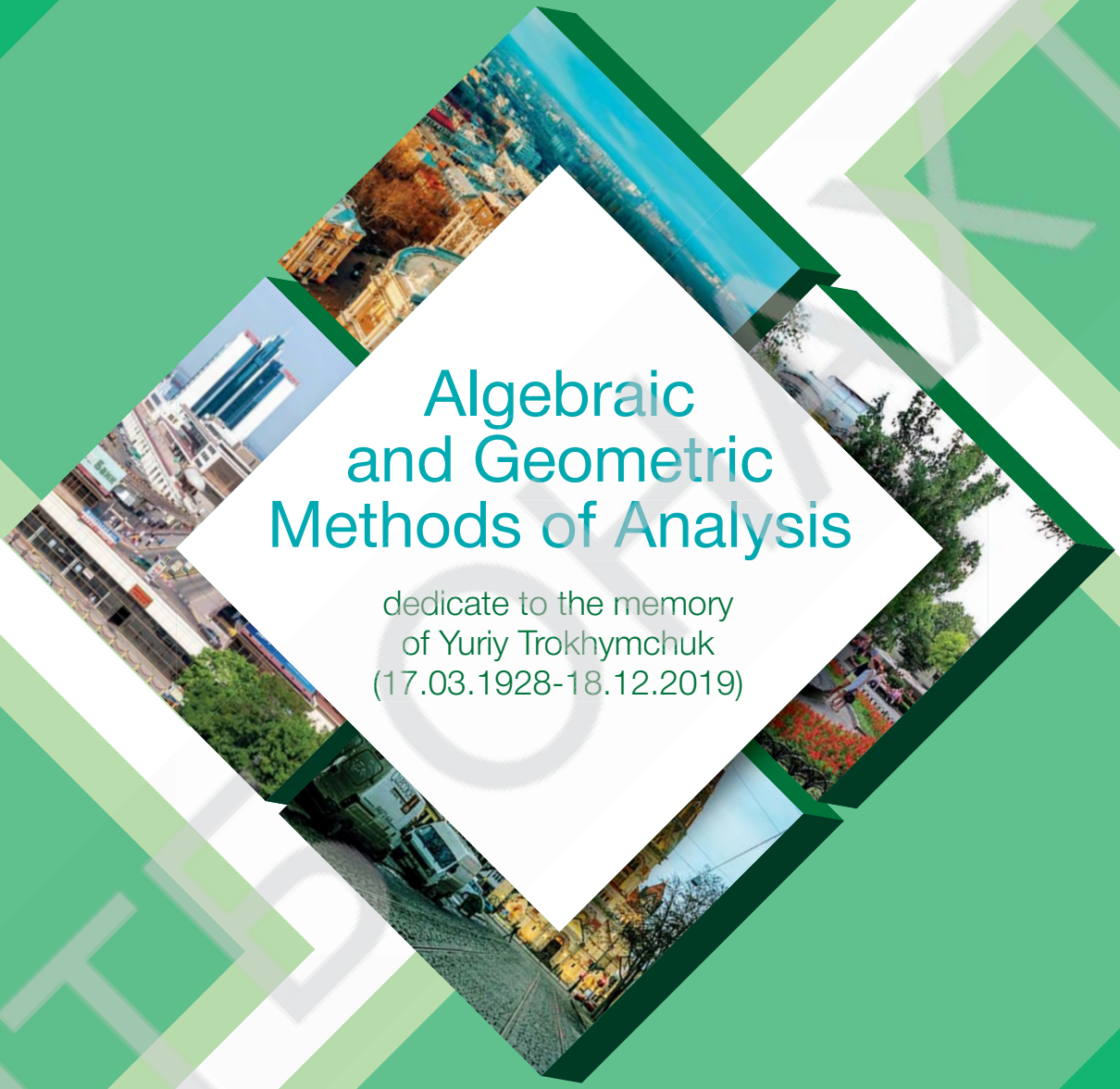

Algebraic and Geometric Methods of Analysis

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

May 25-28, 2021
Odesa, Ukraine

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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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On the equivalency classes of weakly conjugated inner mappings

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A map is called inner mapping if it is open and isolated (the preimage of a point consists of isolated points). Yuriy Trokhimchuk studied inner mappings a lot during his life and published a book [5]. Topological properties of dynamical systems generated by inner mappings were studied in [3].

the open question of topological dynamics of inner mappings of surfaces is whether there exists a class of structurally stable inner mappings. Conjugacy with a homeomorphism as a topological equivalence of inner mappings seems too strict to produce a structurally stable map. It is proven in [1, 2] for Anosov endomorphisms. A paper [4] produced some examples even for the wandering set. It seems that indeed there is no structurally stable inner mapping up to topological conjugacy.

In that case it seems reasonable to find another definition of the topological equivalence such that it allows structural stability. Possible candidates are discussed.

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