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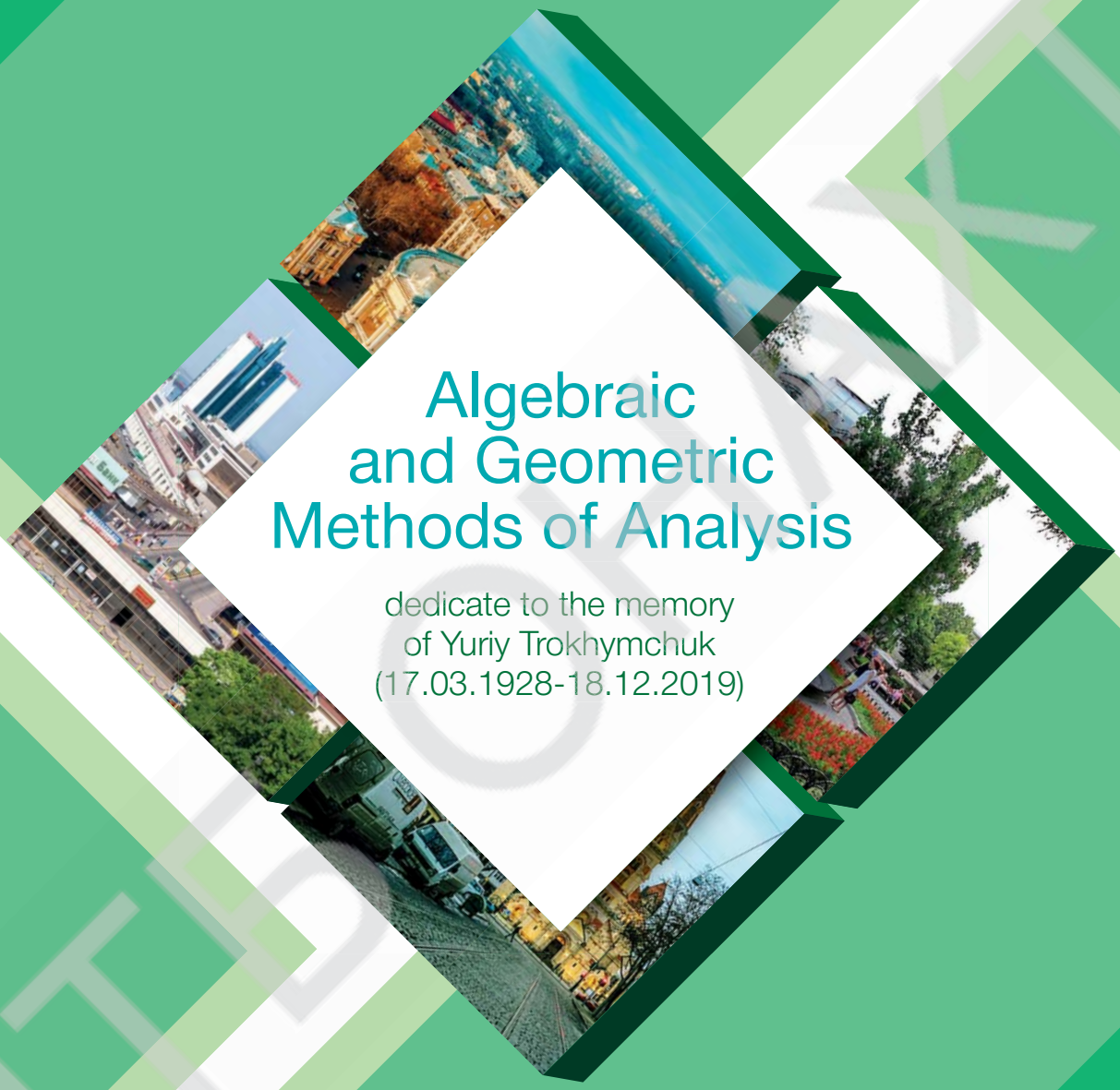

Algebraic and Geometric Methods of Analysis

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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НТБ ОНАХТ

On some generalization of the bicyclic monoid

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We introduce algebraic extensions $\boldsymbol{B}_\omega^{\mathscr{F}}$ of the bicyclic monoid for an arbitrary ω-closed family $\mathscr{F}$ subsets of ω which generalizes the bicyclic monoid, the countable semigroup of matrix units and some other combinatorial inverse semigroups. It is proven that $\boldsymbol{B}_\omega^{\mathscr{F}}$ is combinatorial inverse semigroup and Green's relations, the natural partial order on $\boldsymbol{B}_\omega^{\mathscr{F}}$ and its set of idempotents are described. We prove the criteria of simplicity, 0-simplicity, bisimplicity, 0-bisimplicity of the semigroup $\boldsymbol{B}_\omega^{\mathscr{F}}$. We gave the criteria when the semigroup $\boldsymbol{B}_\omega^{\mathscr{F}}$ has the identity, and when the semigroup $\boldsymbol{B}_\omega^{\mathscr{F}}$ is isomorphic to the bicyclic semigroup or the countable semigroup of matrix units.

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