

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
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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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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.

Kh. F. Kholturayev <i>Perfect metrizable of the functor of idempotent measures</i>	75
Y. Khomych <i>Quasiareal deformation of surfaces of positive Gauss curvature</i>	77
V. Kiosak, O. Lesechko <i>Canonical infinitesimal deformations of metrics of pseudo-Riemannian spaces</i>	78
R. Salimov, B. Klishchuk <i>On the behavior at infinity of ring Q-homeomorphisms</i>	79
T. Kolomiets, A. Pogorui <i>Elements of probability theory and measures with values in hypercomplex algebras</i>	81
N. Konovenko <i>The invariants of planar 3-webs with respect to group of symplectic diffeomorphisms, for the case of the conformal group</i>	84
E. Kudryavtseva <i>Topology of spaces of smooth functions and gradient-like flows with prescribed singularities on surfaces</i>	85
G. Kuduk <i>Nonlocal problem with integral conditions for homogeneous system of partial differential equations of second order</i>	87
I. Kuznietsova, Yu. Soroka <i>Realization of groups as fundamental groups of orbits of smooth maps</i>	88
K. Gürlebeck, D. Legatiuk <i>Modified quaternionic operator calculus and its application to micropolar elasticity</i>	90
S. Maksymenko, E. Polulyakh <i>On non-Hausdorff manifolds of dimension 1</i>	92
S. Maksymenko <i>Symplectomorphisms preserving smooth functions on surfaces</i>	93
M. Maloid-Hliebova <i>Second classical Zariski topology of multiplicative module</i>	94
I. Marko <i>Incomplete spaces of idempotent measures</i>	95
N. Mazurenko, M. Zarichnyi <i>Hyperspaces of convex sets related to idempotent mathematics</i>	96
A. Mednykh <i>Volumes of knots and links in spaces of constant curvature</i>	98
R. Mohseni, R. A. Wolak <i>Twistor spaces on foliated manifolds</i>	99
P. Mormul <i>Two problems in nonholonomic geometry (in quest of a co-worker)</i>	100
F. Mukhamadiev <i>The local τ-density of a linearly ordered spaces</i>	101
T. Obikhod <i>Entropy and phase transitions in Calabi-Yau space</i>	102
A. Orevkova <i>Reducing singularities of smooth functions to normal forms</i>	104
T. Osipchuk <i>On m-convexity and m-semiconvexity of sets in Euclidean spaces</i>	106
V. Ostrovskiy, O. Ostrovska, D. Proskurin, Yu. Samoilenko <i>On representations of q_{ij}-commuting isometries</i>	108
J.F. Peters <i>Homotopic Nerve Complexes with Free Group Presentations</i>	110
P. Laurain, M. Petrace <i>Uniform measures in Euclidean space</i>	112