

International scientific conference
«Algebraic and geometric methods
of analysis»

Book of abstracts



May 31 - June 5, 2017
Odessa
Ukraine

LIST OF TOPICS

- Algebraic methods in geometry
- Differential geometry in the large
- Geometry and topology of differentiable manifolds
- General and algebraic topology
- Dynamical systems and their applications
- Geometric problems in mathematical analysis
- Geometric and topological methods in natural sciences
- History and methodology of teaching in mathematics

ORGANIZERS

- The Ministry of Education and Science of Ukraine
- Odesa National Academy of Food Technologies
- The Institute of Mathematics of the National Academy of Sciences of Ukraine
- Taras Shevchenko National University of Kyiv
- The International Geometry Center

PROGRAM COMMITTEE

Chairman: Prishlyak A. (<i>Kyiv, Ukraine</i>)	Maksymenko S. (<i>Kyiv, Ukraine</i>)	Rahula M. (<i>Tartu, Estonia</i>)
Balan V. (<i>Bucharest, Romania</i>)	Matsumoto K. (<i>Yamagata, Japan</i>)	Sabitov I. (<i>Moscow, Russia</i>)
Banakh T. (<i>Lviv, Ukraine</i>)	Mashkov O. (<i>Kyiv, Ukraine</i>)	Savchenko A. (<i>Kherson, Ukraine</i>)
Fedchenko Yu. (<i>Odesa, Ukraine</i>)	Mykytyuk I. (<i>Lviv, Ukraine</i>)	Sergeeva A. (<i>Odesa, Ukraine</i>)
Fomenko A. (<i>Moscow, Russia</i>)	Milka A. (<i>Kharkiv, Ukraine</i>)	Strikha M. (<i>Kyiv, Ukraine</i>)
Fomenko V. (<i>Taganrog, Russia</i>)	Mikesh J. (<i>Olomouc, Czech Republic</i>)	Shvets V. (<i>Odesa, Ukraine</i>)
Glushkov A. (<i>Odesa, Ukraine</i>)	Mormul P. (<i>Warsaw, Poland</i>)	Shelekhov A. (<i>Tver, Russia</i>)
Haddad M. (<i>Wadi al-Nasara, Syria</i>)	Moskaliuk S. (<i>Wien, Austria</i>)	Shurygin V. (<i>Kazan, Russia</i>)
Herega A. (<i>Odesa, Ukraine</i>)	Panzhenskiy V. (<i>Penza, Russia</i>)	Vlasenko I. (<i>Kyiv, Ukraine</i>)
Khruslov E. (<i>Kharkiv, Ukraine</i>)	Pastur L. (<i>Kharkiv, Ukraine</i>)	Zadorozhnyj V. (<i>Odesa, Ukraine</i>)
Kirichenko V. (<i>Moscow, Russia</i>)	Plachta L. (<i>Krakov, Poland</i>)	Zarichnyi M. (<i>Lviv, Ukraine</i>)
Kirillov V. (<i>Odesa, Ukraine</i>)	Pokas S. (<i>Odesa, Ukraine</i>)	Zelinskiy Y. (<i>Kyiv, Ukraine</i>)
Konovenko N. (<i>Odesa, Ukraine</i>)	Polulyakh E. (<i>Kyiv, Ukraine</i>)	

ADMINISTRATIVE COMMITTEE

- Egorov B., chairman, rector of the ONAFT;
- Povarova N., deputy chairman, Pro-rector for scientific work of the ONAFT;
- Mardar M., Pro-rector for scientific-pedagogical work and international communications of the ONAFT;
- Fedosov S., Director of the International Cooperation Center of the ONAFT;
- Volkov V., Director of the Educational Research Institute of Mechanics, Automation and Computer Systems named after P. M. Platonov;
- Bukaros A., Dean of the Faculty of automation, mechatronics and robotics

ORGANIZING COMMITTEE

Kirillov V.
Konovenko N.
Fedchenko Yu.

Hladysh B.
Nuzhnaya N.
Osadchuk E.

Maksymenko S.
Khudenko N.
Cherevko E.

НТБ ОНАФТ

A study on the integral invariants of a closed spacelike ruled surface

Tunahan Turhan

(Süleyman Demirel University, Vocational School of Technical Sciences, 32260, Isparta)

E-mail: tunahanturhan@sdu.edu.tr

Nihat Ayyıldız

(Süleyman Demirel University, Faculty of Science and Letters, Department of Mathematics, 32260, Isparta)

E-mail: nihatayyildiz@sdu.edu.tr

In the present work, we study integral invariants of a closed spacelike ruled surface with respect to the integral invariants of the closed dual spacelike spherical curve. Moreover, by using the concepts and results on spherical spacelike curve in dual Lorentzian space, we give some relations about the pitch and the angle pitch of a closed spacelike ruled surface.

REREFENCES

- [1] Ayşe Altın and Aysel Turgut Vanlı. *The pitch and the pitch of a closed nonnull ruled hypersurface whose generator is spacelike in R_1^{k+2}* , Turkish Journal of Mathematics, 24: 327-334, 2000.
- [2] Barrett O'Neill. *Semi-Riemannian Geometry with Applications to Relativity*. Academic Press, London, 1983.
- [3] Emin Özyılmaz and Yusuf Yaylı. *On the closed spacelike developable ruled surface*. *Hadronic Journal*. 23: 439-456, 2000.
- [4] Emin Özyılmaz and Yusuf Yaylı. *On the integral invariants of a timelike ruled surface*. *Mathematical Computational Applications*. 6: 137-145, 2001.
- [5] Hasan Hilmi Hacısalihoğlu. *On the pitch of a closed ruled surface*. *Mechanism and Machine Theory*. 7: 291-305, 1972.
- [6] Nihat Ayyıldız, *The integral invariants of a closed ruled surface in semi-Euclidean space*. PhD thesis, Süleyman Demirel University, The Institute of Science, Isparta, 2003.
- [7] Osman Gürsoy. *The dual angle of pitch of a closed ruled surface*. *Mechanism and Machine Theory*. 25: 131-140, 1990.
- [8] Osman Gürsoy. *On the integral invariants of a closed ruled surface*. *Journal of Geometry*. 39: 80-91, 1990.
- [9] Ömer Köse. *Contributions to the theory of integral invariants of a closed ruled surface*. *Mechanism and Machine Theory*. 32: 261-277, 1997.

Konovenko N., Lychagin V. <i>On projective classes of rational functions</i>	71
Kozerenko S. <i>Orientations of trees and signed Markov graphs</i>	73
Kuzmenko T. <i>Constructive description of G-monogenic mappings in the algebra of complex quaternions</i>	74
Lyubashenko V. <i>Moyal and Rankin-Cohen deformations of algebras</i>	76
Markitan V. <i>Fractal properties of sets associated with Markov representation of real numbers defined by a double stochastic matrix</i>	78
Matsumoto K. <i>Warped product semi-slant submanifolds in locally conformal Kaehler manifolds</i>	79
Mormul P. <i>Weak and strong nilpotentizability in the monster towers hosting flag distributions</i>	80
Mukhamadiev F. G. <i>The local density and the local weak density of $N_7^{\mathcal{P}}$-kernel of a topological space X and superextensions</i>	82
Muradoglu Z., Gunduz Aras C. <i>A study for decision making problems by using interval soft sets</i>	84
Muradov R. S. <i>Archimedean copula functions and their some algebraic properties with applications</i>	85
Obikhod T. V. <i>BPS states of Fourfolds as candidates for Kaluza-Klein modes</i>	87
Parasyuk I. O. <i>Landau-type inequalities for curves on Riemannian manifolds</i>	88
Prislyak A., Prus A. <i>Morse-Smale flows on torus with hole</i>	90
Reinov O. <i>On nuclear operators with trace $V = 1$ and $V^2 = 0$</i>	91
Sabitov I. Kh. <i>Multiple roots of the volume polynomials for polyhedra</i>	92
Samokhvalov S. <i>Theory of gravity in the affine frame</i>	93
Shamolin M. V. <i>Integrable systems with dissipation on the tangent bundle of two-dimensional manifold</i>	94
Turhan T., Ayyildiz N. <i>On geometry of spatial kinematics in Lorentzian space</i>	96
Turhan T., Ayyildiz N. <i>A study on the integral invariants of a closed spacelike ruled surface</i>	97
Vasilchenko A. N. <i>Dual modules over Steenrod algebra 2</i>	98
Vlasenko I. <i>Topology of the basin of attraction of surface endomorphisms.</i>	100
Voloshyna V. <i>About some properties of functions determined as transformations from W^n to W^m-representation</i>	101
Vyhivska L. <i>On the problem of product of inner radii symmetric non-overlapping domains</i>	103
Yildirim S., Ayyildiz N. <i>A Study on Rectifying Curves in Semi-Euclidean Spaces</i>	104
Арсеньева О. Е., Кириченко В. Ф., Суровцева Е. В. <i>Эрмитова геометрия почти контактного метрического многообразия</i>	105