October 13, 2025, from 4:45 p.m. to 6:20 p.m. (Moscow time)
room 16-10 and broadcast via ZOOM

Yury G. Nikonorov

Properties of plane angles of tetrahedra with a given base

Let $\Omega(\triangle ABC)$ be the set of all tetrahedra $ABCD$ in three-dimensional Euclidean space with a given non-degenerate base ABC and a vertex D lying outside the plane ABC. Consider the set

$$\Sigma(\triangle ABC) = \big\{(\cos\alpha, \cos\beta, \cos\gamma) \in \mathbb{R}^3 : ABCD \in \Omega(\triangle ABC)\big\},$$

where $\alpha = \angle BDC$, $\beta = \angle ADC$, and $\gamma = \angle ADB$. This talk is devoted to describing the closure of the set $\Sigma(\triangle ABC)$ in $\mathbb{R}^3$.

The main results were obtained in the following paper:

E.V. Nikitenko, Yu.G. Nikonorov, *On face angles of tetrahedra with a given base*, 2025, arxiv:2505.22374.

SCIENTIFIC SEMINAR
"DIFFERENTIAL GEOMETRY AND APPLICATIONS"

headed by Academician of RAS Anatoly T. Fomenko

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