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Abstracts of Short Communications and Posters

Section:

2. Algebra

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The automorphisms of affine spaces and polynomial manifolds
Study of group $\mathrm{Aut}(\mathbf{A}^2)$ of automorphisms of affine plane was started about 50 years ago by deutsch mathematician Yung and was continued by soviet mathematician Shafarevich in 1967. In this work with the help of combinatorial group theory structure of group $\mathrm{Aut}_m(\mathbf{A}^2)$ consisting of automorphisms of degree not more than m is defined. It is proved that two-dimensional compact manifolds which admits an atlas consistent with pseudogroup generated by the group $\mathrm{Aut}_m(\mathbf{A}^2)$ is torus or the Klein bottle. Some properties of n–dimensional polynomial manifolds are also considered.
Reference: I. R. Shafarevich. O nekotorykh beskonechnomernykh gruppakh (On some infinite–dimensional groups). II, *Izw. AN SSSR. Ser. mat.* **45** (1981), No 1, 214–226.