

International scientific conference

“Algebraic and Geometric Methods of Analysis”

Book of abstracts



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Conference webpage: imath.kiev.ua/~topology/conf/agma2019/

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

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- The International Geometry Center

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ФІТБ ОНАФТ

Discrete sets, discrete measures, quasicrystals Fourier, pure crystals

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Let μ be a measure in \mathbb{R}^d which is a tempered distribution, let $\hat{\mu}$ be its Fourier transform, in a general case it is a tempered distribution. If μ and $\hat{\mu}$ are measures with closed discrete supports, then μ is called Fourier quasicrystal. For example let $\mu = \sum_{k \in \mathbb{Z}^d} \delta(x - n)$, where δ is Dirac's measure. By Poisson's formula, we get $\hat{\mu} = \mu$. If the support of μ is a finite union of translates of a single full-rang lattice, then μ is called a pure crystal. If the support of μ is a finite union of translates of several full-rang lattices, then μ is called a comb.

In our talk we show some well-known and new results when Fourier quasicrystal is a pure crystal or a comb. Some of these results we expand to the class of tempered distributions.

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