

Geometry, Topology and Dynamics Seminar

Fourier Transforms and Physical Dualities

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Abstract: The Fourier transform is a canonical integral transform that relates the function theory of a locally compact abelian group with the function theory of its character group. In this talk I will review how this relates to an algebraic version of the Fourier transform relating the sheaf theory of an algebraic commutative group to an appropriate version of its dual, and discuss how it relates to duality in physics. I will conclude by discussing a class of self-dual spaces constructed in my thesis, which I conjecture to be the 3d Coulomb branches of 4d theories of class S. No previous knowledge of mathematical physics will be assumed, and the talk will be given with the expectation of a diverse audience.

Monday, February 17 at 3:00 PM in 636 SEO