28th Colloquium Lecture, School of Mathematics
Faculty of Mathematics and Physics

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Sokolovská 83, Praha 8 – Karlín

Hyper-Kahler manifolds

Abstract

Riemann's embedding theorem says that all compact Riemann surfaces can be holomorphically embedded in projective space. There exist complex projective manifolds which deform to compact complex manifolds with no projective embedding, and in fact with no topologically trivial holomorphic line bundle, namely the complex tori. I will introduce in this talk a more mysterious class of complex manifolds, namely hyper-Kahler manifolds, and I will describe their main properties.