



## 复旦大学数学科学学院 数学综合报告会

报告题目: **A new perspective on orbit method**

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**摘要:** Kirillov's coadjoint orbit method claims that irreducible unitary representations of a Lie group  $G$  should arise as quantization of coadjoint orbits of  $G$ , which are naturally symplectic manifolds. The case of noncompact semisimple groups is beyond the reach of the usual geometric quantization procedure, which challenges our understanding of "quantization". On the other hand, Kronheimer discovered that coadjoint orbits of a complex semisimple group  $G$  admit hyperkahler metrics, whose role in orbit method has not been fully exploited yet. In this talk, I will combine this fact with deformation quantization and birational geometry of orbits to suggest a new approach to orbit method. This is joint work with Conan Leung.

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