
Student Geometry Seminar

國立清華大學數學系 學生幾何研討會

講題 Fedosov's quantization method on symplectic manifolds

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Abstract

Deformation quantization is a mathematical formulation of quantization of a classical mechanical system, which is characterized by a Poisson bivector, to a quantum mechanical system, which is characterized by a “star product”. In 1997, Kontsevich solved this problem by proving the formality theorem. However, his method is quite complicated. A much easier and natural construction is feasible on a symplectic manifold, which is a special case of Poisson manifold. In this talk, I will provide some needed background knowledge and then introduce the idea of Fedosov's quantization method on symplectic manifolds.