Student Geometry Seminar

國立清華大學數學系 學生幾何研討會

講題 Kontsevich deformation quantization in R^n and computation of weighted graphs

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Abstract

The fundamental problem of deformation quantization is to find a star product for a given Poisson structure on a manifold. Among various methods, Kontsevich's application of the formality theorem solves the problem for general Poisson manifolds, which has an explicit formula on Euclidean spaces with a graphic representation. Though, the graphs become complicated in order-3 terms or higher. Buring and Kiselev hence classified the graphs to simplify the computation. In this talk I will present Kontsevich's formula on Euclidean spaces and introduce the method, in which Buring and Kiselev generate and operate on weighted graphs to construct different star products.