

Star product and application

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Deformation quantization is to construct associative algebras of functions on manifold by one parameter deformation of usual multiplication of functions. The deformed product is called a star product.

For any manifold, there exist star products in a formal power series of functions on the manifold, shown by Kontsevich.

For these two decades, deformation quantization theory has a huge development and extension in various directions, and has provided many ideas to construct several algebras in quantization.

In this talk, I will give a brief review on some basics on deformation quantization and its applications, with concrete examples. Especially I will discuss nonformal deformation quantizations, namely, deformation with non formal deformation parameter.