Omori, Hideki; **Maeda, Yoshiaki**; **Miyazaki, Naoya**; **Yoshioka, Akira**

Deformation quantization of Fréchet-Poisson algebras: Convergence of the Moyal product. (English) Zbl 0987.53036

Dito, Giuseppe (ed.) et al., Conférence Moshé Flato 1999: Quantization, deformations, and symmetries, Dijon, France, September 5-8, 1999. Volume II. Dordrecht: Kluwer Academic Publishers. Math. Phys. Stud. 22, 233-245 (2000).

From the introduction: Beyond formal deformation quantization, i.e., deformation quantization of Poisson algebras with a formal deformation parameter [*F. Bayen*, *M. Flato*, *C. Fronsdal*, *A. Lichnerowicz* and *D. Sternheimer*, Ann. Phys. 111, 61-110 (1978; Zbl 0377.53024) and 111-151 (1978; Zbl 0377.53025)], one can ask whether the formal parameter converges. In this direction, *M. Rieffel* [Mem. Am. Math. Soc. 506 (1993; Zbl 0798.46053)] presented a notion of strict deformation quantization: deformation quantization with a convergent product in the C^*-algebra sense. This suggests us opportunities of finding various kind of notions of deformation quantizations with a convergent product for suitable categories of algebras.

The purpose of this paper is to give a notion of deformation quantization corresponding to *M. Rieffel's* work [loc. cit.] in the Fréchet categories, and to show that several strange phenomena occur when we treat exponential functions of quadratic forms.

For the entire collection see [Zbl 0949.00040].

MSC:

53D55 Deformation quantization, star products
81S10 Geometry and quantization, symplectic methods

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formal deformation quantization; strict deformation quantization