

Bursztyn, Henrique; Waldmann, Stefan

On positive deformations of $*$ -algebras. (English) [Zbl 0979.53098](#)

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, 69-80 (2000).

Summary: Motivated by deformation quantization we consider $*$ -algebras over ordered rings and their deformations: we investigate formal associative deformations compatible with the $*$ -involution and discuss a cohomological description in terms of a Hermitian Hochschild cohomology. As an ordered ring allows for a meaningful definition of positive functionals and as the formal power series with coefficients in an ordered ring are again an ordered ring we define a deformation to be positive if any positive linear functional of the undeformed algebra can be deformed into a positive linear functional of the deformed algebra. We discuss various examples and prove in particular that star-products on symplectic manifolds are positive deformations.

For the entire collection see [\[Zbl 0949.00040\]](#).

MSC:

53D55 Deformation quantization, star products

Cited in **2** Reviews
Cited in **8** Documents

Keywords:

ordered rings; Hermitian Hochschild cohomology; star-products on symplectic manifolds; positive deformations

Full Text: [arXiv](#)