

FEDOSOV QUANTIZATION APPROACH TO QFT

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Most quantum field theories (QFT's) have classical counterparts that are described by Lagrangians, and these are in fact often actually taken as the starting point for defining/constructing the theory. One possible viewpoint on the “quantization” of a classical field theory of an algebraic nature is to think of QFT as a deformation (in the sense of “deformation quantization”) of the Poisson-algebra describing the classical field theory. This viewpoint has been worked out, including the treatment of “renormalization”, in the context of perturbative quantum field theory by Fredenhagen et al., and also by the author in recent years. In this talk I want to indicate another approach to this problem which relates it to a prescription due to Fedosov, which was developed originally in the context of the deformation quantization of finite dimensional symplectic manifolds (and their associated Poisson algebras).