# Covariant quantization: spectral analysis versus deformation theory

## Michael Pevzner

**Abstract.** Formal deformation or rather symbolic calculus? To which extent do these approaches complete each other in the study of symmetry-preserving quantization procedures for homogeneous spaces? The representation theory of underlying Lie groups shows that the answer is much more delicate than initially thought and that it cannot be always reduced to asymptotic expansions with respect to some Planck's constant. The main goal of this survey is to give hints regarding the aims of each approach and, on the domain where these intersect, to compare the answers they lead to.

M. PEVZNER
FRE 3111 du CNRS, Université de Reims, Campus Moulin de la Housse, F-51687, Reims, France
(e-mail: `pevzner@univ-reims.fr`)