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Cyclic cohomology of deformation quantizations over orbifolds

In the talk, the cyclic homology of deformation quantizations of the convolution algebra over a proper étale groupoid G will be studied. It is shown that cyclic homology recovers the (additive) structure of the orbifold cohomology of the orbit space $X = G_0/G$. As a consequence, the space of traces on the deformed convolution algebra has dimension equal to the number of sectors of the underlying orbifold. Using these results, I then elaborate on the application in the algebraic index theory of orbifolds.

Joint with N. Neumaier, H. Posthuma and X. Tang.