



Contribution ID: 9

Type: not specified

Hypoelliptic deformation, self-adjointness, and analytic torsion

Tuesday, December 12, 2017 9:30 AM (50 minutes)

The purpose of the talk is to explain the construction of non self-adjoint Hodge Laplacians, which naturally deform classical Hodge theory.

If X is a compact Riemannian manifold, let X be the total space of its tangent bundle. The deformed Hodge Laplacian is constructed over X . It is a hypoelliptic operator on X , which is essentially the sum of a harmonic oscillator and of the generator of the geodesic flow. In the real case, the symplectic form of X is used in its construction.

Applications to analytic torsion, real and holomorphic, will be given. Time permitting, connections with Selberg's trace formula will be explained.

Presenter: Prof. BISMUT, J.-M. (Université d'Orsay)