

Non-commutative algebras and Poisson algebras

Thursday, October 17, 2013 12:00 PM (45 minutes)

This is a joint work with R. Berger (St-Etienne). Following the idea that classical mechanics should be a limit case of quantum mechanics, P.A.M. Dirac explained that the commutator of dynamical variables in quantum mechanics should be the analogue of the symplectic Poisson bracket of \mathbb{R}^{2r} in classical mechanics.

Working in a mathematical setting, we consider a non-commutative algebra B , which can be seen as a deformation of a Poisson algebra T .

This algebra B belongs to a family of 3-Calabi-Yau algebras defined by potentials and depending on a natural integer n and the algebra B is for us the most interesting example in the case $n=2$. We give cohomological links between B and T , as we obtain the Poisson cohomology of T and prove that the Hochschild cohomology of B is isomorphic to the Poisson cohomology of T .

Mots Clés / Keywords

Poisson and Hochschild (co)homology

Primary author: Mrs PICHEREAU, Anne (ICJ, Univ. Jean Monnet)

Presenter: Mrs PICHEREAU, Anne (ICJ, Univ. Jean Monnet)

Track Classification: Topologie algébrique et applications