

Seminário CEA FEL*

22 de Abril - 15H00 - sala 6.2.38

Invariants and Hochschild cohomology of rings of differential operators in one variable

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Abstract:

A polynomial h in the variable x determines the derivation $h(d/dx)$ of the polynomial ring $F[x]$, and together with the multiplication operator on this ring, it generates a noncommutative algebra A_h whose elements can be written as differential operators on $h(d/dx)$ with coefficients in $F[x]$. I will talk about some features of this algebra related to invariants under groups of automorphisms, derivations and the structure of the Hochschild cohomology Lie algebra of A_h , both in prime and zero characteristics. I will then explain how the complete Hochschild cohomology can be determined using the twisted Calabi-Yau property relative to a suitable 'Nakayama' automorphism.

This is joint work with G. Benkart and M. Ondrus.

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