

1058-14-300

Andrei Caldararu*, 480 Lincoln Dr., Madison, WI 53706, **Junwu Tu**, WI , and **Damien Calaque**, , France. *A conjecture of Duflo and the Ext algebra of branes.*

The Duflo theorem is a statement in Lie theory which allows us to compute the ring structure of the center of the universal enveloping algebra of a finite-dimensional Lie algebra. A categorical version of it was used by Maxim Kontsevich to give a spectacular proof of the so-called "Theorem on complex manifolds," which computes the multiplicative structure of Hochschild cohomology of a complex manifold in terms of the algebra of polyvector fields. In Lie theory there are also more general Duflo-type statements (mostly conjectural), which study the case of a pair (Lie algebra, Lie subalgebra). I will explain how these translate into conjectures about the multiplicative structure of the Ext-algebra of the structure sheaf of a complex submanifold of a complex manifold, and how from this interaction we can hope to gain new insights into both algebraic geometry and Lie theory. (Received February 17, 2010)