SEMPARIS – Séminaires en région parisienne

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TBA

Mardi 19 Juin 2018, 11 :00
IHES, Centre de conférences Marilyn et James Simons
Domaines : hep-th

Titre : *Cohomological Hall algebras, vertex algebras and instantons*

Orateur : **Yan Soibelman (Kansas State University & IHES)**

Résumé : *The notion of Cohomological Hall algebra (COHA) was introduced in our joint paper with Maxim Kontsevich 10 years ago. It can be thought of as a mathematical incarnation of the notion of BPS algebra envisioned by physicists Harvey and Moore in the 90's.*

Mathematically, COHA is an associative algebra structure on the cohomology of the moduli stack of objects of a 3-dimensional Calabi-Yau category with coefficients in a certain constructible sheaf. Interesting categories can be of geometric or algebraic origin (sheaves on Calabi-Yau 3-folds, quivers with potential, etc.).

In the talk I plan to discuss actions of COHA on the cohomology of certain instanton moduli spaces (spiked instantons of Nekrasov). This gives a relationship of COHA with affine Yangians and more recent "vertex algebras at the corner" introduced by Gaiotto and Rapcak.