THE UNIVERSITY OF HONG KONG

Institute of Mathematical Research
Department of Mathematics

GEOMETRY SEMINAR

Contraction algebra and invariants associated to three dimensional flopping contraction

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Abstract

The contraction algebra is defined by Donovan and Wemyss in the study of noncommutative deformation theory. In this talk, we will explain how to use contraction algebra to study the three dimensional flopping contraction. We will show that the derived category of singularities and the subcategory of complexes support on the exceptional curve can be reconstructed from the contraction algebra. These reconstruction theorems suggest that the contraction algebra can be viewed as a noncommutative analogue of the Milnor ring of hyper surface singularity. We will also explain how to recover the genus 0 Gopakumar-Vafa invariants from the contraction algebra. This talk is based on a joint work with Yukinobu Toda: arXiv:1601.04881.

Date:	February 18, 2016 (Thursday)
Time:	4:30 – 5:30pm
Place:	Room 210, Run Run Shaw Bldg., HKU

All are welcome