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Seminar

Bipolar filtration of topologically slice knots

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Abstract

Let T be the smooth concordance group of topologically slice knots. Understanding the structure of T is of fundamental importance since T measures the subtle difference between topological and smooth category in dimension 4. Cochran, Harvey and Horn proposed a framework to study T systematically by introducing a geometrically defined filtration on T which is called the bipolar filtration. They interpreted many smooth concordance invariants in terms of the bipolar filtration. The non-triviality of this filtration has been a key problem, which was answered only for the zeroth and first level. In this talk, we prove that the bipolar filtration on T is non-trivial at every level. The proof employs Cheeger-Gromov L^{2} ρ-invariants and Heegaard Floer d-invariants. This is joint work with Jae Choon Cha.

Date: 11 July 2017 (Tuesday)
Time: 2:00pm – 4:00pm
Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome