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Short talk: Bow varieties, stable envelopes and 3d-mirror symmetry

Wednesday 11 January 2023 09:30 (25 minutes)

Mirror symmetry for 3d N=4 supersymmetric gauge theories has recently received plenty of attention in both representation theory and mathematical physics. It predicts that Higgs and Coulomb branches of a pair of dual theories are interchanged, and hence that both pairs of homologous branches (Higgs-Higgs and Coulomb-Coulomb) share exceptional topological and geometric properties. One of the predictions of mirror symmetry is that elliptic stable envelopes, which are certain topological classes intimately related with elliptic quantum groups, are the same after appropriate identifications. In this talk I will focus on Coulomb and Higgs branches of type A, which are collectively described by a class of varieties known as Cherkis bow varieties, and I will discuss the main ideas behind the proof of mirror symmetry of sable envelopes (joint work in progress with Richard Rimanyi).

Presenter: BOTTA, Tommaso Maria (ETH Zurich)