

Antonio Alfieri

Title: Instanton Floer homology of almost-rational plumbings

Abstract: Plumbed three-manifolds are those three-manifolds that can be realized as links of isolated complex surface singularities. Inspired by Heegaard Floer theory Némethi introduced a combinatorial invariant of complex surface singularities (lattice cohomology) that was recently proved to be isomorphic to Heegaard Floer homology. I will expose some work in collaboration with John Baldwin, Irving Dai, and Steven Sivek showing that the lattice cohomology of an almost-rational singularity is isomorphic to the framed Instanton Floer homology of its link. The proof goes through lattice cohomology and makes use of the decomposition along characteristic vectors of the instanton cobordism maps found by Baldwin and Sivek.