

The sutured Floer homology polytope

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Using sutured Floer homology (in short SFH) I will define a polytope inside the second relative cohomology group of a sutured manifold. This is a generalization of the dual Thurston norm polytope of a link-complement studied by Ozsvath and Szabo using link Floer homology. The polytope is maximal dimensional under certain conditions. Moreover, surface decompositions correspond to the faces of the polytope in some sense. These imply that if the rank of SFH is $< 2^{k+1}$ then the sutured manifold has a depth at most $2k$ taut foliation. Moreover, SFH acts as a complexity for balanced sutured manifolds.

1:00 p.m.
Math 520
Columbia University