

Braids and combinatorial knot Floer homology

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Knot Floer homology is a powerful invariant of knots and links in 3-manifolds that is, in one form or another, difficult to compute. The first combinatorial technique for computing knot Floer homology was described by Manolescu, Ozsváth and Sarkar, and goes by way of grid diagrams. In this talk, I will present an alternative method for combinatorially computing knot Floer homology using braids and open books. I will further discuss some of the strengths of this algorithm by demonstrating that, in many cases, it is significantly faster than the previous approach using grid diagrams.