

1096-57-838

Jonathan M Bloom* (jbloom@math.mit.edu) and **John A Baldwin** (john.baldwin@bc.edu).

A bordered monopole Floer theory. Preliminary report.

I'll discuss work-in-progress with John Baldwin toward constructing a gauge-theoretic analogue of the Fukaya category and monopole Floer theoretic invariants of bordered 3-manifolds. Our construction associates an A_∞ category to a surface, an A_∞ functor to a bordered 3-manifold, and an A_∞ natural transformation to a 4-dimensional cobordism of bordered 3-manifolds. I'll describe how surgery provides a finite set of bordered handlebodies which generate our category. The morphism spaces for this generating set define a finitely generated A_∞ algebra containing Khovanov's H^n algebra. In fact, our approach is strongly motivated by Khovanov's functor-valued invariant of tangles. (Received September 10, 2013)