

Some 3-manifolds do not bound definite 4-manifolds

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Many construction of 3-manifolds automatically come with a 4-manifold with definite intersection form. Using Heegaard Floer correction terms and an analysis of short characteristic covectors in bimodular lattices, we give an obstruction for a 3-manifold to bound a definite 4-manifold, and produce some concrete examples. This is joint work with Kyle Larson.