

# Tropical Fukaya Algebras

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A multiple cut operation on a symplectic manifold produces a collection of cut spaces, each containing relative normal crossing divisors. We explore what happens to curve count-based invariants when a collection of cuts is applied to a symplectic manifold. The invariant we consider is the Fukaya algebra of a Lagrangian submanifold that is contained in the complement of relative divisors. The ordinary Fukaya algebra in the unbroken manifold is homotopy equivalent to a broken Fukaya algebra whose structure maps count broken disks associated with rigid tropical graphs. Via a further degeneration, the broken Fukaya algebra is homotopy equivalent to a 'tropical Fukaya algebra' whose structure maps are sums of products over vertices of tropical graphs. This is joint work with Chris Woodward.

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