

Homological Mirror Symmetry and Toric Varieties

ABOUZAID, MOHAMMED

University of Chicago

I will explain how tropical techniques give a correspondence between line bundles on a smooth projective Fano toric variety, and certain Lagrangian sections (with boundary) of the moment map on the complex torus. Together with Fukaya-Oh's description of moduli spaces of holomorphic discs with boundaries on Lagrangian sections of cotangent bundles in terms of gradient trees, this correspondence yields the desired equivalence between the derived category of coherent sheaves on a smooth projective Fano toric variety, and an appropriate subcategory of the derived Fukaya category of its mirror.