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**Catherine Kendall Asaro Cannizzo\*** ([cannizzo@math.berkeley.edu](mailto:cannizzo@math.berkeley.edu)). *Homological mirror symmetry for the genus 2 curve in an abelian variety and its SYZ mirror*. Preliminary report.

Motivated by observations in physics, mirror symmetry is the concept that certain manifolds come in pairs  $X$  and  $Y$  such that the complex geometry on  $X$  mirrors the symplectic geometry on  $Y$ . It allows one to deduce information about  $Y$  from known properties of  $X$ . Strominger-Yau-Zaslow (1996) described how such pairs arise geometrically as torus fibrations with the same base and related fibers, known as SYZ mirror symmetry. Kontsevich (1994) conjectured that a complex invariant on  $X$ , the bounded derived category of coherent sheaves, should be equivalent to a symplectic invariant of  $Y$ , the Fukaya category. This is known as homological mirror symmetry. In this project, we first use the construction of SYZ mirrors for hypersurfaces in abelian varieties following Abouzaid-Auroux-Katzarkov (2015), in order to obtain the manifolds  $X$  and  $Y$ . The complex manifold comes from the genus 2 curve as a hypersurface in its Jacobian torus, and we equip the SYZ mirror manifold with a symplectic form. We then describe progress made towards an embedding of the category on the complex side into the Fukaya category. (Received September 25, 2017)