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Spin curves and Landau-Ginzburg models

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This will be a talk recalling a few recent results on spin curves, which are curves with a line bundle whose rth tensor power is isomorphic to the canonical bundle. I will explain that they are interpreted as maps to a singularity and how they serve to establish a correspondence relating two enumerative geometries of rational curves: on one side we consider a smooth Calabi-Yau projective hypersurface and on the other we consider the isolated singularity at the origin of the corresponding affine cone. We will move from this point to speak about generalizations and recent progrees in higher genus.