## 1021-14-53 Huijun Fan and Tyler Jarvis<sup>\*</sup> (jarvis<sup>@math.byu.edu</sup>), Brigham Young University, Dept of Math, Provo, UT 84602-6521, and Yongbin Ruan. Integrable Hierarchies and Mirror Symmetry for Quasi-homogeneous Singularities.

I will describe mirror symmetry results connecting Frobenius algebras arising from Quasi-homogeneous singularities. In some cases the mirror symmetry extends to the level of Frobenius manifolds. For certain groups G of automorphisms, we can also construct G-Frobenius algebras associated to these singularities. The mirror symmetry is present at the level of G-Frobenius algebras, and taking G-invariants yields the mirror symmetry among the original Frobenius algebras.

Furthermore, in several cases one may construct an integrable hierarchy associated to these singularities. I will discuss relations between the potential functions arising from the singularities and solutions of the integrable hierarchy. In the special case of the  $A_n$  singularity, these results correspond to the theory of higher spin curves. (Received August 12, 2006)