1058-18-159 **Junwu Tu*** (tu@math.wisc.edu), 505 Apt B Eagle Heights, Madison, WI 53705. *Hochschild invariants for curved algebras and Landau-Ginzburg models.*

We compute the Hochschild (co)homology of A_∞ algebras that appear in the study of matrix factorizations, as well as in the theory of Landau-Ginzburg models from physics. We find that these groups are trivial, contradicting predictions by physicists. To correct this we introduce a modification of Hochschild theory which is better suited for curved A_∞ algebras. The new invariants are in the same relationship to the old ones as compactly supported homology and Borel-Moore homology are to ordinary homology and cohomology. We compute the new invariants, arriving at the answers predicted by physics. We also present similar calculations for the case of graded matrix factorizations. (Received February 14, 2010)