

Abstract Submitted  
for the 4CF09 Meeting of  
The American Physical Society

**Mirror Symmetry: FJRW-rings and Landau-Ginzburg Orbifolds**

PEDRO ACOSTA, Brigham Young University — For any non-degenerate, quasi-homogeneous superpotential  $W$  and an admissible group of diagonal symmetries  $G$ , Fan, Jarvis and Ruan have constructed a quantum cohomological field theory (FJRW-theory) that gives, among other things, a Frobenius algebra  $\mathcal{H}_{W,G}$  ((a,c) ring) and correlators associated with the superpotential. This construction is analogous to a theory of the Gromov-Witten type. The FJRW- theory is a candidate for the mathematical structure behind  $\mathcal{N} = 2$  superconformal Landau-Ginzburg orbifolds. In this presentation I will give an overview of this theory and discuss the Berglund-Hübsch-Krawitz mirror symmetry conjecture: For a given invertible superpotential  $W$  there exists an invertible superpotential  $W^T$  such that the Frobenius algebra  $\mathcal{H}_{W,G}$  is isomorphic to the (c,c) ring of  $W^T$ , and the Frobenius algebra  $\mathcal{H}_{W^T,G^T}$  is isomorphic to the (c,c) ring of  $W$ .

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Date submitted: 26 Sep 2009

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