1057-81-294 **Allan Adams*** (awa@mit.edu), MIT Center For Theoretical Physics, 77 Mass Ave. 6-405, Cambridge, MA 02139. *Orbifolds and Intrinsic Torsion.*

Like Calabi-Yau manifolds, non-Kahler SU(3) manifolds with intrinsic torsion play an important role in the geometry of string theory. Unlike Calabi-Yaus, these manifolds cannot be ricci-flat, with their curvature canceling against their torsion in a quantum-modified Bianchi identity. By following this cancellation into small-radius loci in moduli space with a linear model, it is possible to construct orbifold cft descriptions of these manifolds in which the role of the intrinsic torsion is played by phases in the orbifold partition function (reminiscent of discrete torsion) which make the orbifold action asymmetric and non-geometric. This talk will review this construction and explain how it can be used to compute the exact massless spectrum of various flux vacua of the heterotic string. (Received January 25, 2010)