1012-19-136   **Jacques Distler*** (`distler@golem.ph.utexas.edu`), Physics Department, University of Texas at Austin, 1 University Station, Austin, TX 78712. *K-Theory, Torsion, and Integral Structures in Special Geometry.*

Mirror Symmetry relates the Special Geometry of the complex structure moduli space of Calabi-Yau manifold, M, with that of the Kähler moduli space of its mirror. Both sides carry an integral structure, which is most transparently understood in terms of K-theory. This point of view is particularly powerful when the Calabi-Yaus are not simply-connected (and hence, there is torsion in the K-theory).

I will elaborate on some work of mine with Brunner and collaborators, which develops this K-theoretic point-of-view. (Received September 17, 2005)