1019-14-95 **Andrei H Caldararu*** (andreic@math.wisc.edu) and **Lev Borisov** (borisov@math.wisc.edu). *The Pfaffian-Grassmannian derived equivalence.*

We argue that there exists a derived equivalence between Calabi-Yau threefolds obtained by taking hyperplane sections (of the appropriate codimension) of the Grassmannian G(2,7) and the Pfaffian Pf(7). The existence of such an equivalence has been conjectured by physicists for almost ten years, as the two families of Calabi-Yau threefolds are believed to have the same mirror. It is the first example of a derived equivalence between Calabi-Yau threefolds which are provably non-birational. (Received August 08, 2006)