1030-14-190 Lev A. Borisov* (borisov@math.wisc.edu), 480 Lincoln Dr, Madison, WI 53706-1388, and Zheng Hua. Strong exceptional collections of line bundles on toric del Pezzo DM stacks.

It has been conjectured that every smooth toric Fano variety has a strong exceptional collection of line bundles. It is natural to try to extend this conjecture to smooth toric DM stacks with an appropriate analog of Fano condition, which are encoded combinatorially by simplicial lattice polytopes with an interior lattice point.

While there are only five different smooth toric del Pezzo surfaces, there are infinitely many smooth toric del Pezzo DM stacks on which one can test the conjecture. In joint work in progress with Zheng Hua we are attempting to settle the conjecture one way or the other in dimension two. Our results up to date have been in favor of the conjecture, but the situation may change by the time of the talk. (Received August 02, 2007)