1038-14-104   **Brendan Hassett*** (`hassett@rice.edu`), Rice University, MS 136, Department of Mathematics, PO Box 1892, Houston, TX 772511892, and **Yuri Tschinkel**. *Flops and ample cones of holomorphic symplectic fourfolds.*

Let F be a complex projective fourfold, deformation equivalent to the Hilbert scheme of a K3 surface. We have conjectured an explicit description for the ample cone of F in terms of the Hodge structure and the Beauville-Bogomolov form on the second cohomology group. This generalizes results for the ample cone of K3 surfaces arising out of the Torelli Theorem, but the existence of Mukai flops introduces new phenomena. We illustrate these with an example where the moving cone of F decomposes into a countably infinite number of chambers, each corresponding to a sequence of flops on F. (Received February 01, 2008)