1097-16-487 **Kelly McKinnie*** (kelly.mckinnie@mso.umt.edu). *Lattices associated to the Brauer group of a K3-surface.* Preliminary report.

Let X be a complex, projective K3 surface with cyclic Néron-Severi Group. In a 2005 paper van Geemen classified the isomorphism types of sublattices of index 2 in T_X, the transcendental lattice of X. In the index 2 case these sublattices correspond to Brauer classes in ${}_2\mathrm{Br}(X)$. For each isomorphism type an auxiliary variety was constructed along with a geometric construction that recovers the original K3 surface together with a Brauer-Severi bundle over X corresponding to the Brauer class. In joint work with Justin Sawon, Sho Tanimoto, and Anthony Várilly-Alvarado this classification is extended to lattices of odd index. (Received January 28, 2014)