1125-VN-2393 **Florian Bouyer**, **Edgar Costa**, **Dino Festi**, **Christopher Nicholls** and **Mckenzie West***
(`westm@reed.edu`). *On the arithmetic of a family of degree-two diagonal K3 surfaces.*

Let Z be a typical degree-two K3 surface of the following family

$$w^2 = ax^6 + by^6 + cz^6 + dx^2y^2z^2.$$

We explicitly compute the geometric Picard lattice and its Galois structure with the eventual goal to determine whether or not there is a Brauer–Manin obstruction to rational points on a surface in the family. (Received September 20, 2016)