1125-14-1374 **Brett Frankel***, Mathematics Department, 2033 Sheridan Road, Evanston, IL 60208. *$\mathbb{F}_q$-Local Systems on Abelian Varieties of Low p-rank.*

For an abelian variety A with small p-torsion, we count the number of representations of the étale fundamental group of A to $GL_n(q)$, where q is a power of p. This count (for fixed n) turns out to be a polynomial in q. The space of such representations is not a scheme, but does have the structure of a constructible set. We give an explicit formula for this polynomial, then state a few theorems which elucidate its features. In particular, we state a new result which generalizes to cosets a theorem of Frobenius about the number of solutions to $x^n = 1$ in a finite group. (Received September 16, 2016)