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Rachel Davis*, Department of Mathematics, Purdue University, 150 N. University Street, West Lafayette, IN 47907, and **Edray Goins**. *Explicit étale covers of an elliptic curve minus a point*. Preliminary report.

Let E be an elliptic curve defined over an algebraically closed field of characteristic 0, and let $X = E - \mathcal{O}$. Then, $\pi_1^{et}(X)$ is the profinite completion of a free group on two letters. Therefore for any 2-generated finite group G , there should exist a Galois étale cover $Y \rightarrow X$ with G as Galois group.

For example, the map multiplication by n has abelian Galois group $(\mathbb{Z}/n\mathbb{Z})^2$. We are especially interested in concrete maps that have non-abelian Galois groups. Professor Donu Arapura gave an explicit example with S_3 as its Galois group. Motivated by this and its applications to Galois representations, we study other examples of 2-generated finite groups. This is joint work with Professor Edray Goins. (Received September 23, 2014)