1163-14-26 **Andrew Obus*** (`andrewobus@gmail.com`) and **Tony Shaska** (`shaska@oakland.edu`).
Superelliptic curves with many automorphisms and CM Jacobians.

Let $\mathcal{C}$ be a smooth, projective, genus $g \geq 2$ curve, defined over $\mathbb{C}$. Then $\mathcal{C}$ has *many automorphisms* if its corresponding moduli point $p \in M_g$ has a neighborhood U in the complex topology, such that all curves corresponding to points in $U \setminus \{p\}$ have strictly fewer automorphisms than $\mathcal{C}$. We compute completely the list of superelliptic curves having many automorphisms. For each of these curves, we determine whether its Jacobian has complex multiplication. As a consequence, we prove the converse of Streit's complex multiplication criterion for these curves. (Received July 02, 2020)