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**Alexander J Hulpke\*** ([hulpke@math.colostate.edu](mailto:hulpke@math.colostate.edu)), Department of Mathematics, Colorado State University, 1874 Campus Delivery, Fort Collins, CO 80526. *Finite Quotients of Arithmetic Groups*. Preliminary report.

A subgroup of  $SL_n(\mathbb{Z})$  is called *arithmetic* if it has finite index. For such a group, given by generators, we would like to be able to determine, e.g., the index. We describe an algorithmic approach that uses finite congruence images  $SL_n(\mathbb{Z}/m\mathbb{Z})$  to answer such questions. It turns out that the representation theory of  $SL_n(p)$  plays a crucial role in making this transition.

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