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**K. Finn Prideaux\*** ([prideaux.k@northeastern.edu](mailto:prideaux.k@northeastern.edu)), Northeastern University, 360 Huntington Avenue, 567 Lake Hall, Boston, MA 02115. *Modular reduction and alternating semiregular polytopes*. Preliminary report.

An *alternating semiregular polytope* is an abstract polytope whose symmetry group is transitive on the vertices and that has regular facets of up to two kinds which occur in alternating fashion around the faces of corank 2. *Modular reduction* is a technique for the construction of abstract polytopes, in which the symmetry group of an abstract polytope is mapped to a set of matrices; the entries of these then reduced modulo some prime. The set of matrices after reduction may then form the group of an abstract polytope. The modular reduction technique has in the past principally been applied to regular polytopes. I apply it to certain classes of abstract semiregular polytopes. (Received January 24, 2022)