1135-05-473 **Bret J. Benesh**, **Dana C. Ernst** and **Nandor Sieben*** (nandor.sieben@nau.edu). *Impartial Avoidance and Achievement Games For Generating Finite Groups.*

We study two impartial games introduced by Anderson and Harary and further developed by Barnes. Both games are played by two players who alternately select previously unselected elements of a given finite group. The first player who builds a generating set from the jointly selected elements wins the achievement game. The first player who cannot select an element without building a generating set loses the avoidance game. We determine the nim-numbers of these games for some finite group families. A key tool is a computer program that can determine these nimbers for fairly large groups. The algorithm uses the lattice of intersection subgroups, which are intersections of maximal subgroups. (Received September 05, 2017)