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Simon M Smith* (simon.smith@chch.oxon.org), 230 West Willow Street, Apt 304, Syracuse, NY 13202. *Infinite primitive permutation groups whose set of subdegrees has a finite upper bound.*

A permutation group G acts *primitively* on a set Ω if it is transitive and any point stabiliser G_α is a maximal subgroup of G . In the finite case, such groups are the basic units from which all permutation groups are comprised. For $\alpha \in \Omega$ the orbits of the point stabilizer G_α are called *suborbits* of G , and the cardinality of a suborbit is a *subdegree* of G .

Most standard methods for determining the structure of finite primitive permutation groups do not translate well to infinite groups. A novel approach for examining the structure of infinite primitive permutation groups is to look at their subdegrees. In this talk I shall give a brief summary of this approach, before describing a new result classifying all infinite primitive permutation groups whose set of subdegrees has a finite upper bound. (Received September 11, 2011)