

Ben Fairbairn: *Spreads of simple groups*

A celebrated corollary of the classification of the finite simple groups is that every finite simple group can be generated by just two of its elements. How easily can such a pair be found and what do they look like? One quantity that addresses questions of this kind is the concept of spread.

Let G be a group. We say that G has *spread* r if for any set of distinct non-trivial elements $\{x_1, \dots, x_r\} \subset G$ there exists an element $y \in G$ with the property that $\langle x_i, y \rangle = G$ for every $1 \leq i \leq r$. The group G has *exact spread* r if it has spread r but not $r + 1$. The case where G is a finite simple group is particularly interesting since it is known that in this case the exact spread is at least 2. The precise value of the exact spread of a simple group is known in very few cases.

In this talk I shall describe some fairly recent results on spreads as well as some recent results bounding the spreads of the sporadic simple groups. Very little previous knowledge of the finite simple groups shall be assumed.