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Yehuda Shalom*, Department of Mathematics. *Bounded generation of arithmetic groups and some recent applications.*

A group G is said to be boundedly generated by a given finite family of subgroups, if there exists M such that every element in G is a product of at most M elements, each belonging to some subgroup in this family. In the talk we shall discuss the origin and three different recent applications of this deep group theoretic property to the study of arithmetic groups, focusing on the concrete simplest example $SL(n)$. (Received April 01, 2008)