ALGEBRA SEMINAR

The Baer-Suzuki width of a complete class of finite groups is finite

By

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Abstract: Let X be a nonempty class of finite groups closed under the taking subgroups, homomorphic images and extensions (the latter means that a finite group G belongs to X if there is a normal subgroup H in G such that both H and G/H belong to X). A group G is called an X-group if $G \in X$. According to Gordeev, Grunewald, Kunyavskiĭ, and Plotkin, the Baer-Suzuki width BS(X) of X does not exceed a non-negative integer m if, in any finite group G, the largest normal X-subgroup coincides with the set of elements x such that every m elements conjugate to x generate an X-subgroup. If there are no m for which $BS(X) \leqslant m$, then by definition $BS(X)=\infty$. The main result of the talk states that $BS(X)<\infty$ for every class X with the above properties. More precisely, if X is distinct from the class of all finite groups, then the value of BS(X) does not exceed $\max\{11,2Y+1\}$ where Y is equal to the largest n such that $Sym(n) \in X$.

Date: Wed, 30 April 2025
Time: 13:30
Place: Zoom
To request the event link, please send a message to d.yilmaz@bilkent.edu.tr