

A Krull-Remak-Schmidt theorem for fusion systems

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The Krull-Remak-Schmidt theorem, when restricted to finite groups, implies that every finite group factorizes as a product of indecomposable subgroups which are unique up to isomorphism. But the theorem actually says much more. For example, as a special case, it implies that this factorization is unique (not only up to isomorphism) whenever the group is perfect or has trivial center. This is important, for example, when describing the automorphisms of the group in terms of the automorphisms of its indecomposable factors.

A similar factorization theorem is true for fusion systems over finite p -groups; in fact, for fusion systems over discrete p -toral groups. In this talk, I plan to begin by discussing the original theorem for groups and sketch its proof, and then (after a brief introduction to fusion systems) describe how these ideas can be carried over to prove the corresponding result in that setting.