Abstract:

We will discuss the classification of algebraic supergroups \( G \) for which their representation category \( \text{Rep}(G) \) is semisimple (working over an algebraically closed field of characteristic zero). The statement roughly says that \( \text{OSp}(1|2n) \) is the only 'truly super' algebraic supergroup with this property. We will discuss different proofs and related ideas, with the goal of understanding in some ways how non-semisimplicity expresses itself in a supergroup.