Around the classification of semisimple algebraic supergroups

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.