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*Introduction to Deligne Categories*

A symmetric tensor category is (roughly speaking) an abelian  $k$ -linear rigid symmetric monoidal category. The classic examples of such categories take the form  $\text{Rep}(G)$  where  $G$  is a group. By a remarkable theorem of Deligne, if the base field  $k$  has characteristic 0, then all symmetric tensor categories satisfying some dimensional constraints are in fact equivalent to a category of representations (of a supergroup).

But what happens when these constraints are lifted? To explore the case where objects are allowed to have non-integer dimensions, Deligne constructed symmetric tensor categories  $\underline{\text{Rep}}(S_t)$ ,  $\underline{\text{Rep}}(GL_t)$ , where  $t$  is an arbitrary complex number. In this talk, I will introduce these categories and show why they can be viewed as the result of "interpolating" the classical representation categories  $\text{Rep}(S_n)$ ,  $\text{Rep}(GL_n)$ .