Twisting by 3-cocycles

One way that fusion categories get trickier is that a lot of information is encoded in the associator. For example, we can look at $G$-graded vector spaces with a nontrivial associator.

**Associator**

$$\omega_{\alpha,\beta,\gamma} : V_{\alpha\beta\gamma} = (V_{\alpha} \otimes V_{\beta}) \otimes V_{\gamma} \rightarrow V_{\alpha} \otimes (V_{\beta} \otimes V_{\gamma}) = V_{\alpha\beta\gamma}$$

assigns a scalar to every triple $(\alpha, \beta, \gamma)$.

- Compatibility $= \omega$ is a 3-cocycle
- $\text{Vec}(G, \omega)$ up to equivalence only depends on $\omega \in H^3(G, k^\times)$. 

Full slides @ gmail.