AKT-091124, Hour 29: KTGs, PaT, Shielded Tangles

November 22-09 2:36 PM

Why I'm a bit frustrated...

On board

Peter's class, Thirty or not week

Given "braided monoidal" categories

Aside 1

KTE is finitely generated by

1. "Shield" all tangles:

2. Shielded compositions are definable:

3. Relations: 1. Whatever makes this well-defined.
   2. The Reidemeister moves.

4. So finding a $\mathbb{Z}$ is just a matter of
   finding/guessing $\mathbb{Z}(\Delta)$ & $\mathbb{Z}(\bar{\Delta})$, solving
   a few relations...

Aside 2

Aside 2

Let you think it is easy...

Claim. With $\Phi = \mathcal{Z}(\Delta)$, the above relation becomes equivalent
to the Drinfeld's pentagon of the theory of quasi Hopf algebras.

Proof.

= $\Phi \in \mathcal{A}(\gamma)$

= $(\Phi \otimes 1) \cdot (1 \otimes \Delta \otimes 1)(\Phi) \cdot (1 \otimes \Phi) \in \mathcal{A}(\gamma)$

= $\Phi((1,2,3,4)) = \Phi((1,3,2,4))$