

Cheat Sheet Double Tree

Joint with Zsuzsanna Dancso.

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Let \mathcal{K}^{uw} be the algebraic structure $[sKTG \xrightarrow{\alpha} \widetilde{wTF}]$, where $sKTG$ is signed knotted trivalent $(1, 1)$ -tangles. \widetilde{wTF} is wTF^o with added generators $\left\{ \begin{array}{c} \nearrow_{\text{red}}, \searrow_{\text{red}}, \\ \nearrow_{\text{black}}, \searrow_{\text{black}}, \\ \nearrow_{\text{red}}, \searrow_{\text{black}}, \\ \nearrow_{\text{black}}, \searrow_{\text{red}} \end{array} \right\}$ now a coloured circuit algebra. All Reidemeister and OC relations appear with all possible colourings. Two? new operations:

ori switch of red strands and puncture of black. The projectivization of \mathcal{K}^{uw} is $\mathcal{A}^{uw} = [\mathcal{A}^u \xrightarrow{\alpha} \mathcal{A}^{sw}]$, where in \mathcal{A}^{sw} 1-wheels are zero and so are tails on red strands.

Theorem 0. \exists homomorphic expansion $Z^{uw} = (Z^u, Z^w)$ for \mathcal{K}^{uw} . (In particular $\alpha Z^u = Z^w a$.)

Dror's notes: Still none.