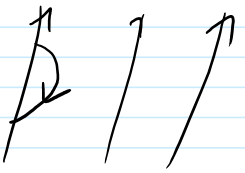
Knotted w-horns

March 15, 2016 10:39 AM

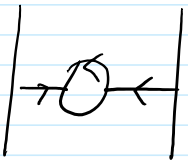
$\mathcal{A}^{w,hor} \to \mathcal{A}^{w,acyc} \to \mathcal{A}^{w} \to \mathcal{A}^{w/cyc}$ mod by



This is the braid space.

No cycles allowed, including skeleton.

First, $\mathcal{A}^{w,acyc}$: Does not have strand stitching!

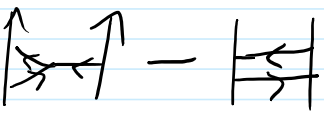


The relvant STU to use here is .

It is not acyclic. So even if wheels where allowed, they wouldn't simplify.

Yet all trees are in! Using the 4 unbidding:

Does contain a scattering loop.

Yet =  by a legit STU.

Conjecture. $\mathcal{A}^{w,acyc}_n \cong U(tder_n)$.

Likely true. The simplifying moves, as above, remain allowed.

Is $\mathcal{A}^{w,acyc}$ finitely presented?

$K^{w,acyc}$ is w-tangles with no "flow and drop down" loops.

A Taylor expansion exists!

K^{w,acyc} is probably the same as "the monoid of basis-conjugating (not-necessarily-invertible) elements of Hom(FGn,FGn)".

Next, $\mathcal{A}^{w/cyc}$!