Today: Cutkosky rules vs renormalization (actual research) "co-interacting Bialgebras".

Next week: training week for the stalls.

Feb 22: Outlook on Summer course.
this leads to a coaction

\[ \begin{pmatrix}
1 & 0 & 0 \\
0 & \alpha & 0 \\
0 & 0 & 0
\end{pmatrix} \]

\[ \downarrow \]

\[ \begin{pmatrix}
1 & 0 & 0 \\
0 & \alpha & 0 \\
0 & 0 & 0
\end{pmatrix} \]

\[ \uparrow \]

\[ \text{It is true amplitudes (husteds) Hodge} \]

\[ \mathcal{I}(\mathcal{A}) = \mathcal{A} \otimes \mathcal{A} + \alpha \otimes \mathcal{A} \]

\[ \uparrow \text{the co-action for the analytic structure of graphs} \]

\[ \Rightarrow \text{one input.} \]

The other input:

\[ \text{core Hodge algebra} \]
\[ \Delta (\triangledown) = (\ast) \otimes (\ast) \]

\[ + \left( \ast \right) \otimes \ast \]

\Delta, S are both co-algebras on an algebra, given by polynomial algebras on the space of loops in your graph.

Are these two co-algebras compatible in which sense?