δaa relations, 2

July-20-15 10:42 PM

The Task: in δaa, reduce $V^{\otimes 2}\otimes V^{\otimes 2}$ to $S^2V\otimes S^2V$.

The tools: locality: $\delta[a_{ij},a_{kl}]=0$

Swinging: $\delta a_{ij}a_{kl}\sim\delta a_{il}a_{jk}$

Tails commute: $\delta[a_{ij},a_{ik}]=0$

Commute heads: $\delta[a_{ik},a_{ij}]=0$

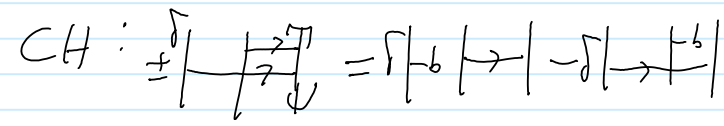
Commute T/H: $\delta[a_{ij},a_{jk}]\sim 0$

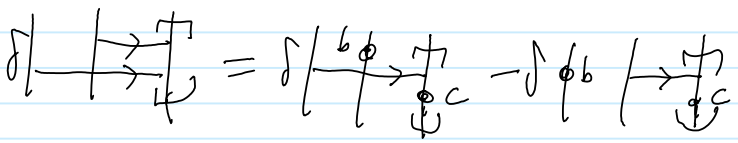
Actions: * If $\delta a_{ij}a_{kl}$, $|\{i,j,k,l\}|=4$,
use locality to get $i<k$, then swing to $j<l$.
No issues.

* If one chord is a selfie & other is on other strands: use locality; swinging can be used to reduce to T/H!

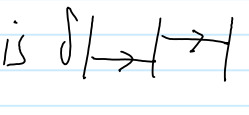
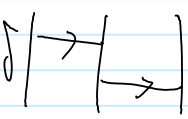
* If $|\text{support}|=3$:
  - shared tails: $i=k$; use TC/swinging to $j<l$
    TC & swinging <u>are</u> compatible.
  - shared heads: $j=l$; use CH/swinging

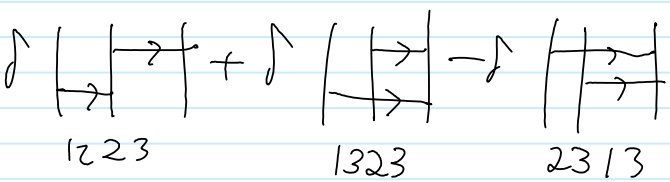
to $i<k$.

CH: 

Swinging: 

They are compatible!

– T/H: target is  , start is 

use T/H: → 

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