

(continues <http://katlas.math.toronto.edu/drorbn/bbs/show?shot=Roukema-090814-105947.jpg>)

The key points: Given a type n invariant  $\mathcal{V}$   
 we are seeking a not-necessarily invariant extension  
 $\bar{\mathcal{V}}$  of  $\mathcal{V}$  to vKds (virtual knot diagrams)  
 with the following

mandatory properties: 0.  $\bar{\mathcal{V}}|_{\text{knots}} = \mathcal{V}$ .

1.  $\bar{\mathcal{V}}(\text{X}) = \bar{\mathcal{V}}(\text{X}^1) - \bar{\mathcal{V}}(\text{X}^2)$  ALWAYS.

2.  $\bar{\mathcal{V}}$  vanishes on vKds w/ more than n X's.

3.  $\bar{\mathcal{V}} \circ S^{-1}$  vanishes on vKds w/ more than n xings.

elective properties:

4.  $\bar{\mathcal{V}}$  is invariant under descending peripheral extensions of double-point-only vKds.

5.  $\bar{\mathcal{V}}\left(\begin{array}{c} | \\ \text{---} \\ | \end{array}, \begin{array}{c} | \\ \text{---} \\ | \end{array}\right) = \bar{\mathcal{V}}\left(\begin{array}{c} | \\ \text{---} \\ | \end{array}, \begin{array}{c} | \\ \text{---} \\ | \end{array}\right)$

Q: If  $\bar{\mathcal{V}}_0$  satisfying the mandatory properties exists, can we always modify it to find a  $\bar{\mathcal{V}}$  also satisfying the elective properties?

Q: Restate the elective properties of  $\bar{\mathcal{V}}$  in terms of  $\bar{\mathcal{V}} \circ S^{-1}$

Q: Can we also add invariance under R1 & R2?