

Prior Art. θ is probably equal to the "2-loop polynomial" studied by Ohtsuki at [Oh2] (at much greater difficulty, and with harder computations). θ is



related, but probably not equivalent, to the invariant studied by Garoufalidis and Kashaev at [GK].

 θ Sees Topology! Indeed, for a knot *K*, half the T_1 degree (say) of $\theta(K)$ bounds the genus of *K* from below, and this bound is sometimes better (and sometimes worse) than the bound coming from Δ . It is fair to hope that "anything Δ can do θ can do too" (see [BN2]), and in particular, that θ may say something about ribbon and/or slice properties.

Video and more at http://www.math.toronto.edu/~drorbn/Talks/Beijing-2407 and http://www.math.toronto.edu/~drorbn/Talks/Geneva-2408.

Gompf-

knot

Gompf Scharlemann Thompson

③ AbsoluteTiming@

PolyPlot

The

48-crossing

[GST] is significant because it may be a counterexample to the slice-

Scharlemann-Thompson

ribbon conjecture:

 $\begin{array}{l} \varThetaline \left[\texttt{EPD} \left[X_{14,1}, \overline{X}_{2,29}, X_{3,40}, X_{43,4}, \overline{X}_{26,5}, X_{6,95}, X_{96,7}, X_{13,8}, \overline{X}_{9,28}, \right. \\ \left. X_{10,41}, X_{42,11}, \overline{X}_{27,12}, X_{30,15}, \overline{X}_{16,61}, \overline{X}_{17,72}, \overline{X}_{18,83}, X_{19,34}, \overline{X}_{89,20}, \right. \\ \left. \overline{X}_{21,92}, \overline{X}_{79,22}, \overline{X}_{68,23}, \overline{X}_{57,24}, \overline{X}_{25,56}, X_{62,31}, X_{73,32}, X_{84,33}, \overline{X}_{50,35}, \right. \\ \left. X_{36,81}, X_{37,70}, X_{38,59}, \overline{X}_{39,54}, X_{44,55}, X_{58,45}, X_{69,46}, X_{80,47}, X_{48,91}, \right. \\ \left. X_{90,49}, X_{51,82}, X_{52,71}, X_{53,60}, \overline{X}_{63,74}, \overline{X}_{64,85}, \overline{X}_{76,65}, \overline{X}_{87,66}, \overline{X}_{67,94}, \right. \\ \left. \overline{X}_{75,86}, \overline{X}_{88,77}, \overline{X}_{78,93} \right] \right] \end{array} \right]$