

Scatter and Glow:

<http://katlas.math.toronto.edu/drorbn/AcademicPensieve/Projects/ScatterAndGlow/index.html>

- * Verifies R_2, R_3 at both Scatter and Glow level
(Which if any classical invariant of braids is it?)
- * Verifies Overcrossings commute and several kinds of Commutators commute.
- * Can find scattering by arbitrary exponentials.
[Though many formulas are messy]
- * Recovers Kurlin's BCH/ $[[L,L],[L,L]]$ formula:
$$\log e^x e^y = x+y + H\left(\frac{1}{y}\left(1 - \frac{e^x-1}{x} \frac{x+y}{e^{x+y}-1}\right)\right) [x,y]$$
- * Works both analytically and perturbatively
[Though perturbatively, the cutoff degree has to be fixed once and for all, and this is sometimes wrong]
- * Solves R_4 perturbatively, though I do not yet trust the results.

Issue: Scattering by \mathbb{Z} does not determine the scattering by $\Delta\mathbb{Z}$ (and that might be an important point)

Knotted Candies (Just for fun)

Screen clipping taken: 08/01/2009, 9:43 AM

© | Dror Bar-Natan's Image Gallery: Knotted Objects:

Knotted Candies



Knotted Candies

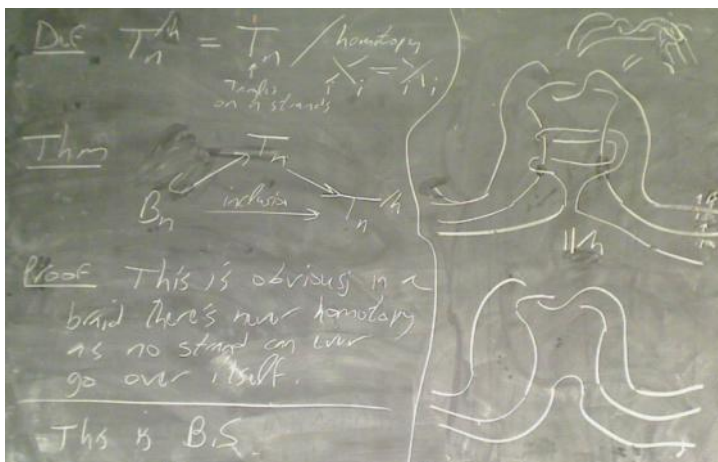


The full Rolfsen table by rope-length minimizing knots
Ideal knots data by Brian Gilbert, rendering by DBN (December 2008).

Full size: [KnottedCandies.png](#) (~3200x3200, ~9MB).

Source code (Mathematica): [KnottedCandies.nb](#) (~0.5MB), [KnottedCandies.pdf](#) (~0.5MB).

Work with Karene:



Screen clipping taken: 08/01/2009, 9:46 AM

Work with Louis:

[http://katlas.math.toronto.edu/drorbn/AcademicPensieve/Projects/Arrow Diagrams and gl\(N\)/index.html](http://katlas.math.toronto.edu/drorbn/AcademicPensieve/Projects/Arrow Diagrams and gl(N)/index.html)

m	1	2	3	4	5
$\dim \Delta^v(1)$	7	7	27	139	out of memory.

$\dim A^v(\uparrow)$	2	7	27	139	out of memory
$\dim \text{in Wgl}_j \mathbb{R}^v$	2	4	7	11	
$\dim A^v(\odot)$	1	2	5	19	77
... more to come ...					

We are now working on the universal $\mathfrak{gl}(N)$ weight system, with values in $U(\mathfrak{gl}(N))$.

Ribbon 2-Knots: Some questions and observations...

W-Braids: Some questions and observations...

Hyperbolic Gliding

Deep Handouts

Braid Group Explorer

} no progress.