

In[]:=

```
SetDirectory["C:\\drorbn\\AcademicPensieve\\Talks\\TrendsInLDT-2005"]
```

Out[]:= C:\drorbn\AcademicPensieve\Talks\TrendsInLDT-2005

```

In[ ]:= col = ImageCollage [
  Scaled[1] → ImagePad[#, 8, White] & /@
  ImageCrop /@ Import /@ FileNames["*.png", {"Clips"}],
  "Fit", 400 {8, 10.5},
  Method → "ClosestPacking", Background → White, Padding → Red, ImagePadding → 4
]

```

n-strand (pure) virtual braids with (≤ m)-xing:						
m/n	2	3	4	5	6	General n
0	1	1	1	1	1	1
1	5	13	25	41	61	2n ² - 2n + 1
2	17	45	99	161	231	2n ⁴ + 4n ³ - 18n ² + 12n + 1
3	53	151	313	511	751	$\frac{1}{3}(4n^5 + 36n^4 - 2n^3 - 546n^2 + 1066n - 558n + 3)$
4	161	467	967	1511	2111	
5	485	1387	2817	4507	6421	
6	1457	4097	8417	13517	19421	
m	2 · 3 ^m - 1					

URL: <http://drorbn.net/t1dt20>
 Credit to Manturov and Chitralal!
 Zoom Etiquette: If you can see me I should be able to see you!

Over then Under Tangles

Trends in Low-Dimensional Topology, online, May 5 2020, noon.

Abstract. Brilliant wrong ideas should not be buried and forgotten. Instead, they should be mined for the gold that lies underneath the layer of wrong. In this paper we explain how "over then under tangles" lead to an easy classification of braids, and under the surface, also to some valid mathematics: an easy classification of braids and virtual braids, an understanding of the Drinfel'd double procedure in quantum algebra, and more.

Based on a paper in preparation with Zsuzsanna Danoso and Roland van der Veen.

Handout: EGOU.html, EGOU.png.

DBN Talk Video.

Pensieve.

URL: <http://drorbn.net/t1dt20>.

n-strand classical braids with (≤ m)-xing:						
m/n	2	3	4	5	6	General n
0	1	1	1	1	1	1
1	3	5	7	9	11	2n - 1
2	5	17	33	53	77	2n ² + 2n - 7
3	7	47	131	259	439	$\frac{1}{3}(4n^3 + 18n^2 - 22n - 63) (n > 2)$
4	9	115	409	1143	2233	
5	11	263	1579	4743	10603	
6	13	577	5121	18941	48209	
7	15	1233	16219	73817	213119	
8	17	2589	50581	283165	924825	
9	19	5371				
m	2m + 1	12 · 2 ^m - 2F _{m+1,5} - 2m - 1 ?				

Not what I do, but the tangent I was on for the last few weeks. But first, the tangent to the tangent I was playing with over the last few days. Possibly an embarrassment! Every braided (classical or virtual) has a directed finite graph associated with it. These are cool!

- Enriquez' universal quantization of Lie bi-algebra.
- All else about quantization of Lie bi-algebra.
- PBW / normal ordering.
- Andoux-Meilhan "Characterization of the Reduced Peripheral System of Links".
- B-N's "Balloons and Hoops" paper.

Out[]:=

This is Demo.nb at <http://drorbn.net/ap/Talks/TrendsInLDT-2005/>

BR[3, {1, 2, 1}] // ExtractionGraph

BR[4, {1, 2, 3, 1, 2, 1}] // ExtractionGraph

Knot[8, 1] // BR // Echo // ExtractionGraph

BR[5, {-1, -1, -2, 1, -2, -3, 2, 4, -3, 4}]

BR[3, {1, -2, 1}] // ExtractionGraph

BR[3, {1, -2, 1, -2}] // ExtractionGraph

VPB[5, σ_{1,1}, σ_{1,2}, σ_{2,1}, σ_{2,2}, σ_{3,1}, σ_{3,2}] // ExtractionGraph

BR[4, {-1, -1, -2, 1, 3, -2, 3}]

BR[3, {-1, 2, -1, 2}]

Knot[6, 3] // BR // Echo // ExtractionGraph

BR[3, {-1, -1, -2, -1, 2, 2}]

Subsets.

Supersets.

Subsets of supersets.

Completions.

Quotients.

Images.

Completions of subsets of supersets, ...

summation bond

```
In[ ]:= {Export["EGOU.png", col], Export["EGOU_800.png", col, ImageSize -> 800]}  
Out[ ]:= {EGOU.png, EGOU_800.png}
```