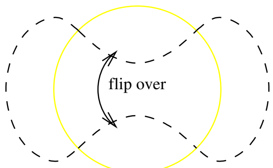
Dror Bar–Natan: Talks: HUJI–060101:

Further Topics

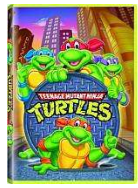
High altitude low oxygen proof of

Invariance under knot mutations.

Assume "flip over" mutation and connectivity as shown.



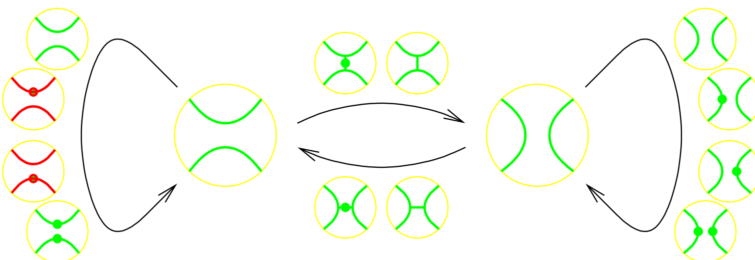
(there are two other cases)



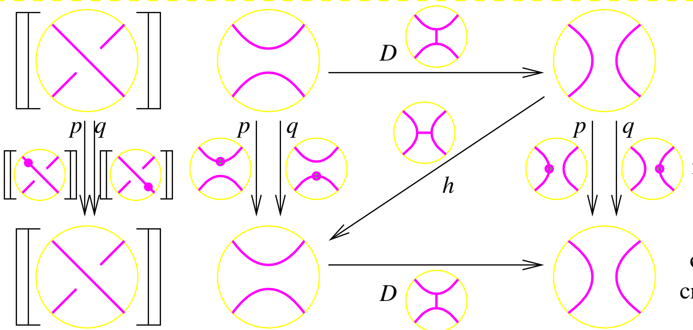
mutants

The Inside Story.

After delooping, all that remains is in



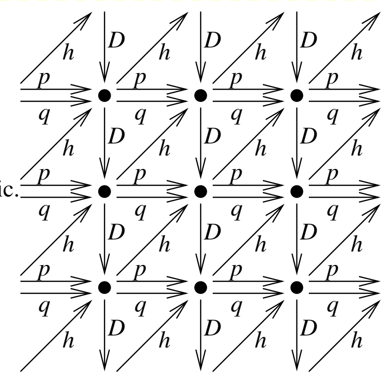
The Outside Story



thus dots can be moved at will across outside crossings

Inside meets Outside.

Theorem. If two horizontal differentials p and q are homotopic relative to the vertical differential D, and the homotopy h commutes with p and q, then the two double complexes involved are isomorphic.

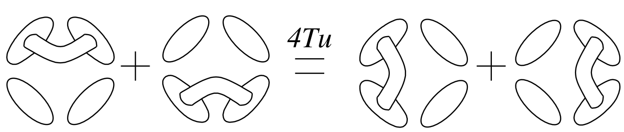


Old techniques:

Many computers,
long time,
no counterexample.

4Tu

Replaces G and NC.

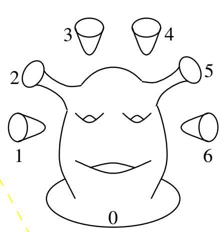


The work of Naot.

<surfaces>/4Tu is freely generated by Shrek surfaces

Gad Naot

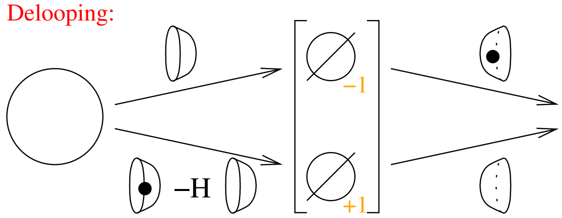
A Shrek surface with 7 boundaries (one distinguished), 3 handles and 2 tubes



שרעק

Let ● denote a tube to the distinguished component (the curtain), and let H denote a handle on the curtain. Then

Delooping:

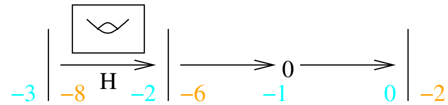


... so the invariant is valued in complexes over a category with just one object and morphisms in Z[H]; all is graded and degH=−2.

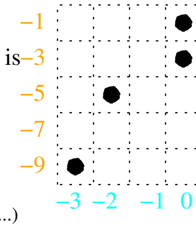
The work of Green.

Jeremy Green

The universal invariant of the left−handed trefoil is

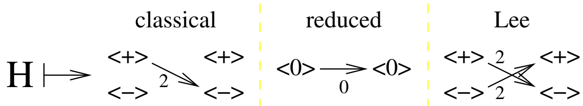


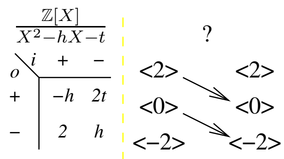
standard data:



(and the invariant of the 48 crossing T(8,7) is computable in minutes...)

Some functors.





(Lee's spectral sequence and Rasmussen's invariant also recoverable)