Overview of Khovanov Homology (2)

1. Every object in mathematics is the Euler characteristic of a complex. (I. Frenkel, though he may disown this version)

2. Every operation in mathematics lifts to an operation between complexes.

3. Every identity in mathematics remains true up to homotopy.

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Conjecture: (I. Frenkel, though he may disown this version)
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2. Every operation in mathematics lifts to an operation between complexes.
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In 1 day says ~1GGb RAM.

~1,000 years,

Old techniques: Kh(T(7,6)).

In day says ~1GGb RAM.

Matrix factorizations:

\[ D = \begin{pmatrix} 0 & A \\ B & 0 \end{pmatrix} \]

\[ AB = BA = \omega I \]

A category, with "complexes", morphisms, homotopies, direct sums and tensor products.

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Leopold Kronecker (modified)

"God created the knots, all else in topology is the work of mortals"

http://www.math.toronto.edu/~drorbn/papers/Cobordism/

http://www.math.toronto.edu/~drorbn/Talks/Istanbul-0606/