

$$K = \left(\int \right) \text{ a knot.}$$

R. Kashaev.

$$\langle K \rangle_n$$

- based on R-matrices.
- completely new creature.

$$\lim_{n \rightarrow \infty} \frac{\log \langle K \rangle_n}{n} = \text{Vol}(K^c)$$

Murakami²: $\langle K \rangle_n = J_n(q = e^{2\pi i/n})$
 \uparrow
 The coloured Jones poly.

$$J_n(q) \in \mathbb{Z}[q^{\pm 1}]$$

sl_2 "The first interesting non-Abelian Lie algebra"

$J_2(q)$: The Jones polynomial

$$q^2 J(\text{crossing}) - q^{-1}(\text{crossing}) = (q - q^{-1}) J(\text{smooth})$$