

Random Knots

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We introduce a new model for random knots and links, based on the petal projection developed by C. Adams et al. (2012). We have found explicit formulas for the distribution of the linking number of a random two-component link. We have also obtained formulas for the moments of the two most basic finite type invariants of knots, which are related to the Conway polynomial and the Jones polynomial.

These are the first precise formulas given for distributions of invariants in any model for random knots or links.

No background in knot theory will be supposed. All terms above will be explained.

Joint work with Joel Hass, Nati Linial, and Tahl Nowik.