

Abstract Submitted  
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**Calculating probability distributions for knot sizes and locations**

PETER VIRNAU, MIT, YACOV KANTOR, Tel Aviv University, MEHRAN KARDAR, MIT — We generate three dimensional random walks and loops with Monte Carlo simulations, and analyze them using various operational definitions of knot sizes and locations. We find that the size of a knot follows a power-law distribution with an exponent of approximately -1.5. As a consequence, knots in open chains are on the average larger when they are located close to the center.

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