Claus Ernst* (claus.ernst@wku.edu), Department of Mathematics, Western Kentucky University, Bowling Green, KY 42101, Yuanan Diao, NC, and Uta Ziegler, KY. The rope length of most knots grows at most linearly with crossing number. Preliminary report.

The computation of upper bounds on the ropelength of a random sample of large knots shows that the rope length of most knots is bounded above by a function that is almost linear. The rope length is computed by a computer program that obtains an upper bound on the ropelength of a large knot by embedding it on the cubic lattice. We give a heuristic argument explaining the numeric results. (Received September 11, 2007)