

Meeting: 1002, Pittsburgh, Pennsylvania, SS 7A, Special Session on Knots and Macromolecules

1002-57-206 **Claus Ernst*** (claus.ernst@wku.edu), Department of Mathematics, Western Kentucky University, Bowling Green, KY 42101, and **Yuanan Diao** and **Uta Ziegler**. *Numeric results on upper bounds of rope length*. Preliminary report.

One can find an upper bound on the rope length of a knot by using an algorithm that embeds any knot diagram on the cubic lattice. Since any lattice knot has a thickness of at least $1/2$, twice the length of the embedding will be an upper bound on the rope length of the knot. While this method will not give good upper bounds for small knots it can be used for very large knots with hundreds or thousands of crossings. (Received September 14, 2004)