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Pittsburgh, PA 15282. *Upper Bounds for the Minimum Ropelength of Knots.*

For many years, the SONO algorithm has been used to approximate ropelength minima. We show that a smooth knot can be inscribed in a SONO-minimized knot in such a way that the ropelength of the smooth knot can be bounded from above. Thus, new upper bounds for the ropelength of different knots can be determined. Furthermore, using simple graph fitting, an approximation of the lowest ropelength for a trefoil knot can be obtained. (Received September 13, 2004)