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Kyle Leland Chapman*, 2509 Oak Crest Dr., Santa Barbara, CA 93105. *An ergodic algorithm for generating random knots of a prescribed thickness.*

Molecular chains and other physical knots have properties which can be influenced by their inherent thickness. The effects of this thickness are poorly understood. A major step forward for understanding the effects of thickness is to be able to randomly generate thick knots and use that as a point of comparison for experimental data. This talk will focus on describing the first algorithm which generates random knots with a prescribed thickness, which is also only the second which has been rigorously shown to be ergodic. We will also briefly highlight the struggle that other knot generation algorithms have had with ergodicity. (Received September 22, 2015)