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Yuanan Diao, Claus Ernst, Eric Rawdon and U Ziegler*, Department of Computer Science, 1906 College Heights Blvd, Bowling Green, KY 42101. *The effect of confinement conditions on topological and geometric properties of random polygons.*

A polymer in confinement is represented by an N-segment, unit-length, free-jointed, closed polygon in spherical confinement. Our algorithm generates segments sequentially and each segment is added based on mathematically derived cumulative conditional probability density functions. This talk discusses the outcomes of a study which investigates the dependence of the knot spectrum and geometric properties of these polygons on the length of the polygons (with fixed confinement size) and on the confining radii (with fixed polygon length). (Received September 03, 2014)