

1116-53-627

**Jason Cantarella\*** ([jason.cantarella@gmail.com](mailto:jason.cantarella@gmail.com)), UGA Math Department, Boyd GSRC, Athens, GA 30602, and **Clayton Shonkwiler**. *Sampling random polygonal knot space.*

Consider the space of closed equilateral 17-gons in 3-space. What fraction of this space consists of knots? What is the topology of the component of the space consisting of trefoil knots? This talk discusses some recent advances on these kinds of questions using symplectic and algebraic geometry. In particular, we give a measure-preserving description of equilateral polygon space as the product of a convex polytope and a torus which allows to sample random polygons efficiently and to derive some bounds on simple knot probabilities. (Received September 09, 2015)