

1116-05-1452      **Harrison C Chapman\*** (hchapman@uga.edu). *Asymptotic laws for knot diagrams.*

We consider a model of random knots akin to the one proposed by Dunfield et. al.; a random knot diagram is a random immersion of the circle into the sphere with randomly assigned crossings. By studying diagrams as annotated maps, we are able to show that any given tangle diagram almost certainly occurs many times in a random knot diagram with sufficiently many crossings. Thus, in this model, it is exponentially unlikely for a diagram with  $n$  crossings to represent an unknot as  $n \rightarrow \infty$ . This asymptotic behavior is similar to that seen in other models of random knots such as random lattice walks and random polygons. (Received September 19, 2015)