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**Andrzej Stasiak.** *Scaling Behavior, Equilibrium Lengths, and Probabilities of Knotted Polymers.*

For each knot type, the equilibrium length with respect to a given spatial characteristic is the number of edges at which the value of the characteristic is the same as the average for all polygons. This number appears to be correlated to physical properties of macromolecules. We explore the extent to which the equilibrium length is universal for all spatial characteristics versus being associated with a given characteristic or class of characteristics. In addition, we determine the chain length for which the probability of forming a given knot type reaches its maximum and compare it with various equilibrium lengths. (Received September 22, 2005)