

1033-00-143

Kenneth Edward Hinson* (kehinson@uncg.edu), 1100 S. Main Street, Kannapolis, NC 28081-5436. *Using Tutte Polynomials of Tensor Products to find Jones Polynomials of Large Knots.*

In this talk, we introduce a generalization of the Tutte polynomial for signed graphs, and a substitution rule by which the Tutte polynomial of the tensor product of two signed graphs can be expressed in terms of the Tutte polynomials of the original signed graphs. This enables us to compute the Jones polynomials of certain large non-alternating knots. In my presentation I will first show how a signed graph is obtained from a knot diagram, define the Tutte polynomial of a signed graph, and demonstrate how the Jones polynomial is calculated from the Tutte polynomial. I will then show how the tensor product operation affects a signed graph and its associated knot diagram, present the substitution rule and compute the Jones polynomial for a simple example. (Received September 08, 2007)