

1106-VQ-2482 **Donald J McGinn*** (djmcginn3@yahoo.com). *Generalized Markoff Equations and Chebyshev Polynomials.*

The Markoff equation is $x^2 + y^2 + z^2 = 3xyz$, and all of the positive integer solutions of this equation occur on one tree generated from $(1, 1, 1)$, which is called the Markoff tree. In this talk, we consider trees of solutions to equations of the form $x^2 + y^2 + z^2 = xyz + A$. We say a tree of solutions satisfies the unicity condition if the maximum element of an ordered triple in the tree uniquely determines the other two. The unicity conjecture says that the Markoff tree satisfies the unicity condition. In this talk, we outline a proof that there exists a sequence of real numbers $\{c_n\}$ such that the tree generated by $(1, c_n, c_n)$ satisfies the unicity condition for all n , and that these trees converge to the Markoff tree. We accomplish this by recasting solutions as linear combinations of Chebyshev polynomials and showing that all of these polynomials are distinct. (Received September 16, 2014)