Mark Bauer*, Dept. of Math. and Stats., 2500 University Dr. NW, University of Calgary, Calgary, AB T2N1N4, Canada, and Michael A. Bennett. Restricted Irrationality Measures.

By Roth's Theorem, we know exactly how well algebraic numbers can be approximated by an arbitrary rational number. If we restrict the form of the rational number that we use to approximate the algebraic number, the approximation is less well understood. However, irrationality measures that involve powers of a fixed denominator can be extremely useful; for example, it is possible to use such measures to find an upper bound for the number of integer solutions to particular families of polynomial-exponential Diophantine equations. These results typically focus on creating restricted irrationality measures for quadratic irrationals. In this talk we will consider two ways to generalize these results to develop more powerful tools. First, we consider relaxing the conditions on the denominator, and second we consider non-quadratic algebraic integers. (Received August 12, 2008)