

1135-30-1091

Khang D Tran* (khangt@csufresno.edu), Department of Mathematics, California State University, Fresno, Fresno, CA 93740. *Zeros of polynomials and their generating functions.*

We discuss an approach which shows that the zeros of various sequences of polynomials lie on fixed curves on the complex plane. In particular, we study connections between the zeros of a sequence of polynomials and its generating function. As an example, we characterize sequences of hyperbolic polynomials satisfying four-term recurrences with constant coefficients. In another example, we analyze connections between the hyperbolicity of polynomials forming the denominator of the generating function and the hyperbolicity of the generated sequence. (Received September 19, 2017)