1116-30-948   **Khang D Tran*** (`khangt@csufresno.edu`), Department of Mathematics, California State University, Fresno, 5245 North Backer Avenue M/S PB108, Fresno, CA 93740. *Zero distribution of sequences of polynomials.*

We discuss an approach which shows that the zeros of various sequences of polynomials lie on fixed curves on the complex plane. In one application of this approach, we provide a linear operator T which preserves zeros of real polynomials on the negative real ray. Special forms of this operator transform real polynomials whose zeros lie on an open sector of the complex plane to polynomials whose zeros lie on $(-\infty, 0)$. In another application of this approach, we study the zeros of sequences of polynomials with complex coefficients generated by rational generating functions. For example, given any two polynomials $A(z)$ and $B(z)$ with complex coefficients, the zeros of the large degree polynomials, generated by the reciprocal of $1 + B(z)t + A(z)t^n$ by expanding it as a series in t, lie on an explicit curve whose equation is defined by $A(z)$ and $B(z)$. We also study other rational generating functions where the method may apply. (Received September 15, 2015)

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