

ON THE LACUNARY-TYPE UNIVARIATE COMPLEX POLYNOMIALS

SHABIR AHMAD MALIK

Abstract. In this paper, we study the zeros of lacunary-type polynomials with complex coefficients. Here we present some results to locate the zeros of lacunary-type polynomials and discuss their importance with respect to existing results comparatively.

Mathematics subject classification (2020): 30A10, 30C10, 30C15, 30C99.

Keywords and phrases: Polynomial, zeros, annulus, Lucas numbers.

REFERENCES

- [1] A. AZIZ, Q. ALIYA, *Estimates for the moduli of the zeros of a polynomial*, Math. Inequal. Appl., **9** (2006), 107–116.
- [2] M. BIDKHAM, A. ZIREH, H. A. SOLEIMAN MEZERJI, *Bound for the zeros of polynomials*, J. Class. Anal., **3** (2) (2013), 149–155.
- [3] A. L. CAUCHY, *Excercices de Mathematiques*, IV Année de Bure Freres, Paris (1829).
- [4] A. DALAL, N. K. GOVIL, *On region containing all the zeros of a polynomial*, Applied Mathematics and Computation **219** (2013), 9609–9614.
- [5] J. L. DIAZ-BARRERO, *An annulus for the zeros of polynomials*, J. Math. Anal. Appl. **273** (2002), 349–352.
- [6] J. L. DIAZ-BARRERO, *Note on bounds of the zeros*, Missouri J. Math. Sci., **14** (2002), 88–91.
- [7] J. L. DIAZ-BARRERO, J. J. EGOZCUE, *Bounds for the moduli of zeros*, Appl. Math. Lett., **17** (2004), 993–996.
- [8] R. DONAGHEY, L. W. SHAPIRO, *Motzkin numbers*, J. Comb. Theory, **23** (1977), 291–301.
- [9] N. K. GOVIL, P. KUMAR, *On the annular regions containing all the zeros of a polynomial*, Applied Mathematics E-Notes, **15** (2015), 317–326.
- [10] S. H. KIM, *On the moduli of the zeros of a polynomial*, Am. Math. Mon., **112** (2005), 924–925.
- [11] T. V. NARAYANA, *Sur les treillis formés par les partitions d'une unties et leurs applications à la théorie des probabilités*, Comp. Rend. Acad. Sci. Paris., **240** (1955), 1188–1189.