

SZEGŐ QUADRATURE AND FREQUENCY ANALYSIS*

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Abstract. A series of papers have treated the frequency analysis problem by studying the zeros of orthogonal polynomials on the unit circle with respect to measures determined by observations of the signal. In the recent paper [3], a different approach was used, where properties of Szegő quadrature formulas associated with the zeros of para-orthogonal polynomials with respect to the same measures were used to determine the frequencies and amplitudes in the signal. In this paper we carry this approach further, and obtain more conclusive results.

Key words. Szegő polynomials, Szegő quadrature formula, frequency analysis problem.

AMS subject classifications. 41A55, 33C45.

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