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SZEGŐ POLYNOMIALS: A VIEW FROM THE RIEMANN-HILBERT WINDOW*

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Dedicated to Ed Saff on the occasion of his 60th birthday

Abstract. This is an expanded version of the talk given at the conference "Constructive Functions Tech-04". We survey some recent results on canonical representation and asymptotic behavior of polynomials orthogonal on the unit circle with respect to an analytic weight. These results are obtained using the steepest descent method based on the Riemann-Hilbert characterization of these polynomials.

Key words. zeros, asymptotics, Riemann-Hilbert problem, Szegő polynomials, Verblunsky coefficients

AMS subject classification. 33C45

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