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THE L_p EXTREMAL POLYNOMIALS CORRESPONDING TO POLYNOMIAL SZEGŐ MEASURE

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ABSTRACT

For a the polynomial Szegő class measure μ on the unit circle $\mathbb{T}$ in the complex plan, with $d\mu = \mu'_{ac}dm + d\mu_s$, where μ_{ac} is the absolutely continuous part of μ and $d\mu_s$ is singular and,

$$\int_{\mathbb{T}} p(t) \log \mu'_{ac}(t) dm(t) > -\infty. \tag{1}$$

We define the extremal polynomials $(1 < p < \infty)$ corresponding to polynomial Szegő measure,there are many intersting problems about extremal polynomials . The most important ones are their asymptotics and zero distribitons . For $p = 2$, the $L_p(\mu)$ extremal polynomials are exactly the orthogonal polynomials associated to the measure μ.

***K*eywords** Extremal polynomials · Szegő condition · polynomial Szegő condition.

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