

Caltech Mathematical Physics Seminar
Winter 2011–12

A Special Class of Orthogonal Polynomials on the Unit Circle

HELGE KRÜGER
Caltech

Abstract. I compute the support and the type of the spectrum of the orthogonal polynomials on the unit circle whose Verblunsky coefficients are given by

$$\alpha_n = \lambda \exp(2\pi i \omega n^r)$$

where $0 < |\lambda| < 1$, ω is irrational, and $r \geq 2$. Furthermore, I analyze the eigenvalue statistics in the case $r = 2$.