1125-47-494   **Milivoje Lukic*** (`milivoje.lukic@rice.edu`), 6100 Main Street, Mathematics MS-136, Houston, TX 77005. *Higher-order Szegő theorems.*

We study relations between probability measures μ on the unit circle and their sequences of Verblunsky coefficients $\alpha = \{\alpha_n\}_{n=0}^\infty$ (which are coefficients in the recurrence relation obeyed by orthogonal polynomials with respect to μ).

The Szegő theorem is a celebrated result giving a necessary and sufficient integral criterion for μ to have $\alpha \in \ell^2$. Higher-order Szegő theorems are similar equivalence statements involving weaker decay, and bounded variation, conditions on α. We will discuss results which test Simon's conjecture for the general form of these theorems, in the multifrequency regime and in the regime of very slow decay. (Received September 04, 2016)