962-41-1173 **Michael J Arciero*** (arciero@math.uri.edu), Department of Mathematics, University of Rhode Island, Kingston, RI 02881. *Asymptotic Behavior of Szegö Polynomials with Respect to a Weak-star Convergent Sequence of Measures on the Unit Circle.*

Let $\phi_n(\theta), n = 1, 2, 3, ...,$ be an approximate identity for $\mathcal{L}_1[-\pi, \pi)$. With the identification $\theta \leftrightarrow e^{i\theta}$, we can consider $\phi_n(\theta)$ as a function on the unit circle. If $\delta_{\theta_j}(\theta)$ is the point mass measure at θ_j, the absolutely continuous convolution $\mu_n := (\phi_n * \sum_{j=1}^m \alpha_j \delta_{\theta_j})(\theta)$ converges in the weak-star sense to $\sum_{j=1}^m \alpha_j \delta_{\theta_j}$. For absolutely continuous μ, let $P_k(z, \mu)$ denote the Szegö polynomial of degree k with respect to μ. In general, $\lim_{n\to\infty} P_k(z, \mu_n)$ may not exist for $k > m$. We exhibit the unique limit for $P_k(z, \mu_n)$ where ϕ_n is the Fejer kernel, and for $P_k(z, (\phi_r * \sum_{j=1}^m \alpha_j \delta_{\theta_j}))$ where ϕ_r is the Poisson kernel, with $r \to 1$ in the latter case. (Received October 02, 2000)