1087-41-67 **Erwin Miña-Díaz*** (minadiaz@olemiss.edu), Department of Mathematics, Hume Hall 305, P. O. Box 1848, University, MS 38677, and **Brian Simanek** (brian.z.simanek@vanderbilt.edu), Department of Mathematics, 1326 Stevenson Center, Nashville, TN 37240. *Spectral transforms of measures and orthogonal polynomials on regions.* Preliminary report.

We consider monic polynomials $\Phi_n(z)$ that are orthogonal with respect to a measure μ supported on the closed interior of an analytic Jordan curve L. Let $\varphi(z)$ be the canonical conformal map of the exterior of L onto the exterior of the unit circle, and let C be the logarithmic capacity of L, which is given by $L = 1/\varphi'(\infty)$. We give necessary conditions for the measure μ to have the property that the Szegő-type asymptotic formula

$$\lim_{n\to\infty} \frac{\Phi_n(z)}{C^n\varphi(z)^n} = D(z)$$

holds true on some simply-connected neighborhood of ∞ containing the curve L. We also prove that such a property is preserved when μ is perturbed by multiplication by a rational weight and the addition of finitely many point masses. (Received November 26, 2012)