1125-42-547   **Brian Simanek*** (`brian_simanek@baylor.edu`), Baylor Math Department, One Bear Place #97328, Waco, TX 76798. *New Universality Results for Polynomial Reproducing Kernels.*

Given a positive, finite, and compactly supported measure on the complex plane with infinitely many points in its support, let $K_n(x,y)$ denote the reproducing kernel for polynomials of degree at most n in the space $L^2(\mu)$. We are interested in understanding the behavior of $d_n K_n(x + ac_n, x + bc_n)$ as $n \to \infty$, where $\{c_n\}$ and $\{d_n\}$ are appropriate sequences of real numbers, a and b are complex numbers, and x is in the support of the measure. Such asymptotics are known to exist for a wide variety of measures and in many cases the limit is stable under certain perturbations of the measure (hence the name *universality*). We will discuss new results that demonstrate the existence of this limit for new classes of measures, including measures on the unit circle that have a Fisher-Hartwig type singularity and area type measures on a certain disconnected polynomial lemniscate. (Received September 06, 2016)