1161-30-13 **Garrett S. Moseley*** (920112221@student.ccga.edu), **Marianela Landi**, **Kayla Johnson** and **Aaron M. Yeager**. *Zeros of Complex Random Polynomials Spanned by Bergman Polynomials.*

We study the expected number of zeros of

$$P_n(z) = \sum_{k=0}^{n} \eta_k p_k(z),$$

where $\{\eta_k\}$ are complex-valued i.i.d standard Gaussian random variables, and $\{p_k(z)\}$ are polynomials orthogonal on the unit disk. When $p_k(z) = \sqrt{(k+1)/\pi}z^k$, $k \in \{0, 1, \dots, n\}$, we give an explicit formula for the expected number of zeros of $P_n(z)$ in a disk of radius $r \in (0, 1)$ centered at the origin. From our formula we establish the limiting value of the expected number of zeros, the expected number of zeros in a radially expanding disk, and show that the expected number of zeros in the unit disk is $2n/3$. Generalizing our basis functions $\{p_k(z)\}$ to be regular in the sense of Ullman–Stahl–Totik, and that the measure of orthogonality associated to polynomials is absolutely continuous with respect to planar Lebesgue measure, we give the limiting value of the expected number of zeros of $P_n(z)$ in a disk of radius $r \in (0, 1)$ centered at the origin, and show that asymptotically the expected number of zeros in the unit disk is $2n/3$. (Received July 17, 2020)