Let \( \{\varphi_k\}_{k=0}^{\infty} \) be a sequence of orthonormal polynomials on the unit circle (OPUC) with respect to a probability measure \( \mu \). We study the variance of the number of zeros of random linear combinations of the form

\[
P_n(z) = \sum_{k=0}^{n} \eta_k \varphi_k(z),
\]

where \( \{\eta_k\}_{k=0}^{n} \) are complex-valued random variables. Under the assumption that \( \mu \) satisfies \( d\mu(\theta) = w(\theta)d\theta \), with \( w(\theta) \geq c > 0 \) for \( \theta \in [0, 2\pi) \), and the distribution for each \( \eta_k \) satisfies certain uniform bounds for the fractional and logarithmic moments, we show that the variance of the number of zeros of \( P_n \) in annuli that contain the unit circle is at most of the order \( n^{\frac{1}{2}} \sqrt{n \log n} \) as \( n \to \infty \). When \( \mu \) is symmetric with respect to conjugation and in the Nevai class, and \( \{\eta_k\}_{k=0}^{n} \) are i.i.d. complex-valued standard Gaussian, we prove a formula for the limiting value of variance of the number of zeros of \( P_n \) in annuli that do not contain the unit circle. (Received July 18, 2018)