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Yen Do, Hoi Nguyen and Oanh Nguyen*, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL 61802. *Universality and non-universality of random trigonometric polynomials.*

In this talk, we discuss the number of real roots of random trigonometric polynomials with iid coefficients. We show that the variance of the number of real roots is asymptotically linear in terms of the expectation; furthermore, the multiplicative constant in this linear relationship depends only on the kurtosis of the common distribution of the polynomial's coefficients. Our method gives a fine comparison framework throughout Edgeworth expansion, asymptotic Kac-Rice formula and a detailed analysis of characteristic functions. (Received August 16, 2020)