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Small algebraic points and random polynomials: a distributional parallel and some recent results

I will draw a parallel between these two areas that features the distribution, interlacing and shadowing eccentricities among the zeros or the critical points of the respective polynomials. On either side of the analogy we consider some old and new results, with mutually motivated proofs, and hope to make a point that a useful interaction goes both ways. Besides the context of small Mahler measure, we also discuss the sample of Weil numbers and end with a hypothetical analog for the nearest matching of zeros within a family of L-functions.