An areal analogue of the Mahler measure

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Abstract: We consider a version of the Mahler measure defined by the integral over the normalized area measure on the unit disk. This natural analogue has many nice properties of the classical Mahler measure such as Kronecker’s characterization of smallest height polynomials, and the asymptotic equidistribution of roots for polynomials of low height. However, this height is a lower bound for the Mahler measure, and it fails an analogue of Lehmer’s conjecture.