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Evaluations of areal Mahler measure

Thursday, 6 June 2024 11:00 (1 hour)

The (logarithmic) Mahler measure of a non-zero rational function P in n variables is defined as the mean of $\log|P|$ (with respect to the normalized arclength measure) restricted to the standard n-dimensional unit torus. It has been related to special values of L-functions via regulators.

Pritsker (2008) defined the areal Mahler measure, which is obtained by replacing the normalized arclength measure on the standard n-torus by the normalized area measure on the product of n open unit disks. In this talk, we will investigate some similarities and differences between the two versions of Mahler measure. We will also discuss some evaluations of the areal Mahler measure of multivariable polynomials, which also yields special values of L-functions.

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