

Limit theorems for combinatorial numbers associated with Dirichlet L -functions and their application to the computation of Dirichlet L -functions values

LUKAS KUZMA

Vilnius University (Lithuania)

Modifications of algorithms for computing Dirichlet L -functions proposed by Šleževičienė are presented. These modifications rely on asymptotic approximations derived from limit theorems for the coefficients of the corresponding series. The computational complexity and performance of implementations based on Chebyshev, Hermite, Legendre, and some other polynomial families are analyzed. The proposed algorithms are further applied to the visualization of fractal structures associated with Dirichlet L -functions.