
NATHAN HEISZ, McMaster University

Densities of Bounded Primes in Hypergeometric Series

A Hypergeometric series ${}_mF_n(\alpha, \beta; z)$ is said to be p -adically bounded if the p -adic valuation of the coefficients is bounded below. A logical extension of this problem is to consider the Dirichlet density of bounded primes in a series with fixed parameters α and β . We will briefly summarize existing results from Franc et.al. on the densities of bounded primes for ${}_2F_1$ over \mathbf{Q} before presenting new results on the densities of general ${}_mF_n$. Furthermore we will discuss a lower bound of the density of bounded primes in ${}_2F_1$ over quadratic number fields $\mathbf{Q}(\sqrt{D})$ and an interesting conjecture that gives an exact formulation for the densities in this case.