



O-minimal definitions of the Gamma function and the Riemann zeta function

A talk by [Dr. Adele Padgett](#) (Universität Wien) as part of the “Complexity Theory, Model Theory, Set Theory” seminar and the KWIM lecture series.

Monday, 4th November 2024, 15:15 in F426.

Abstract. O-minimality is a model-theoretic property with applications in number theory and functional transcendence. Many important functions are known to be definable in o-minimal structures when restricted to appropriate domains, including the exponential function, the Klein j function, and Weierstrass \wp functions. I will discuss joint work with P. Speissegger in which we prove that the Gamma function, which was known to be o-minimal when restricted to the positive real numbers, is in fact o-minimal on certain unbounded complex domains. A similar result holds for the Riemann zeta function.

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