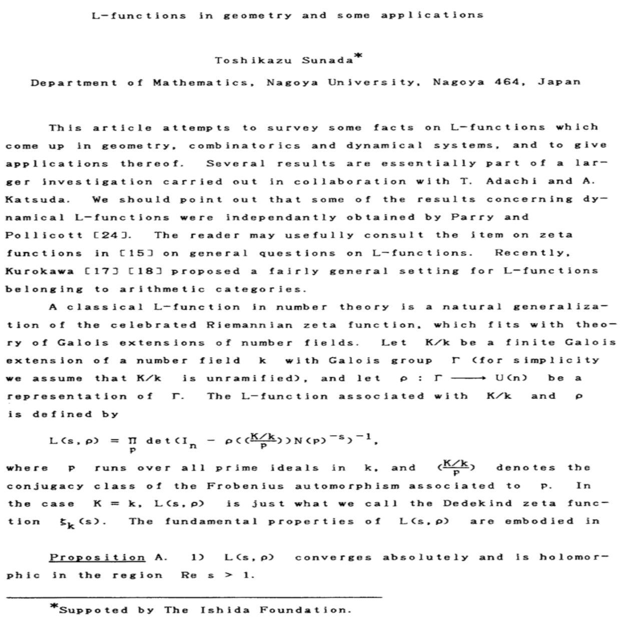
L-functions: in Number Theory



L-functions in geometry and some applications

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This article attempts to survey some facts on L-functions which come up in geometry, combinatorics and dynamical systems, and to give applications thereof. Several results are essentially part of a larger investigation carried out in collaboration with T. Adachi and A. Katsuda. We should point out that some of the results concerning dynamical L-functions were independantly obtained by Parry and Pollicott [24]. The reader may usefully consult the item on zeta functions in [15] on general questions on L-functions. Recently, Kurokawa [17] [18] proposed a fairly general setting for L-functions belonging to arithmetic categories.

A classical L-function in number theory is a natural generalization of the celebrated Riemannian zeta function, which fits with theory of Galois extensions of number fields. Let K/k be a finite Galois extension of a number field k with Galois group Γ (for simplicity we assume that K/k is unramified), and let $\rho : \Gamma \longrightarrow U(n)$ be a representation of Γ. The L-function associated with K/k and ρ is defined by

$$L(s,\rho) = \prod_{p} \det(I_n - \rho((\frac{K/k}{p}))N(p)^{-s})^{-1},$$

where p runs over all prime ideals in k, and $(\frac{K/k}{p})$ denotes the conjugacy class of the Frobenius automorphism associated to p. In the case $K = k$, $L(s,\rho)$ is just what we call the Dedekind zeta function $\zeta_k(s)$. The fundamental properties of $L(s,\rho)$ are embodied in

Proposition A. 1) $L(s,\rho)$ converges absolutely and is holomorphic in the region $\mathrm{Re}\ s > 1$.

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L-functions, which, like Hecke L-functions, were defined now unifies at a conceptual level a number of different.L-functions in Number Theory. Yichao Zhang. Doctor of Philosophy. Graduate Department of Mathematics. University of Toronto. As a generalization of the.Surveys I and I. Monographs I. Volume I. Advanced Analytic. Number Theory: L-Functions. I Carlos Julio Moreno evolutivmedias.comAutomorphic forms, L-functions and number theory (March 1216). Three Introductory lectures. E. Kowalski. Universite Bordeaux I - A2X, , cours de la.The prototypical example of an L-function is Riemann's ?-function By Ostrowski's theorem, this set consists of the finite places, corresponding.Buy L-functions: in Number Theory on evolutivmedias.com ? FREE SHIPPING on qualified orders.L-Functions in Number Theory   L functions appears in both analytic and algebraic number theory as well as in the study of Elliptic curves and.A broad range of topics in number theory were featured, but almost all talks were in areas motivated by the understanding of L-functions. Indeed, two key.L-functions and Dirichlet series are in the central place in both representation theory and number theory. P-adic groups also play a prominent role in number.Perhaps more appropriate would be elementary number theory, which deals with elementary number-theoretic functions, but which is also a misnomer since in.a number of analytic tools necessary for working with L-functions. In the fourth and final most important, conjecture in number theory, or even in the whole of.Welcome to the LMFDB, the database of L-functions, modular forms, and related is an extensive database of mathematical objects arising in Number Theory.The proof uses a common trick in analytic number theory: when an arithmetic function is viewed as a "sum of weights," one may reweight the sum in a controlled.There's a lot one could say, but I'll try to be brief. Roughly the idea (just like with the zeta functions) is that L-functions provide a way to.The most famous L-function is the Riemann zeta-function, and as well as being ubiquitous in number theory itself, L-functions have applications.The best known method for establishing extreme values of zeta, L-functions and number theory then permits the representation of L(s,?d) as the sum of two.