HYBRID UNIVERSALITY FOR L-FUNCTIONS WITHOUT THE EULER PRODUCT

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Abstract

We show the hybrid universality theorem for an axiomatically defined class of L-functions without the Euler product like the Lerch zeta-functions, twists of Lerch zeta-functions and periodic Hurwitz zeta-functions. More precisely, we prove that any analytic functions can be approximated by these L-functions shifted by $i\tau$ and, simultaneously, some finite set of given real numbers can be approximated by $a_1\tau, \ldots, a_n\tau$, where $a_1, \ldots, a_n$ are real numbers linearly independent over $\mathbb{Q}$.

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