On the circular logarithm: uncorrelated mathematical models solved in the 0 to 1 interval

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Abstract

This work uses expansion of polynomials as a tool, and finds that any non-repeated combination of the products of infinite prime numbers satisfies the reciprocal theorem: any function corresponds to a reciprocal function. We prove also three invariance theorems: unity, reciprocity and isomorphism. We then convert the traditional operations of calculus, logarithm and logical algebra into polynomial power expansions. Therefore, any function, such as those in the algebraic number theory, algebraic geometry, group theory, harmonic analysis, self-contained functions, and prime distributions can all be expressed in an uncertain high-order power polynomial equations, which can be analytically mapped to an abstract higher-order logarithmic equation. This abstract equation can be solved accurately for a model-independent solution within "0 and 1". We note that present circular logarithm algorithm meets the requirements of the Langlands principle.