

Motivic zeta functions and infinite cyclic covers

(joint work with A. Libgober and L. Maxim)

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We associate with an infinite cyclic cover of a punctured neighborhood of a simple normal crossing divisor on a complex quasi-projective manifold (assuming certain finiteness conditions are satisfied) a rational function in $K_0(\text{Var} \hat{\mathbb{C}})[\mathbb{L}-1]$, which we call *motivic infinite cyclic zeta function*, and show its birational invariance. Our construction is a natural extension of the notion of *motivic infinite cyclic covers* introduced by the authors, and as such, it generalizes the Denef-Loeser motivic Milnor zeta function of a complex hypersurface singularity germ.