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Iwasawa λ -invariants of p -adic measures and their Γ -transforms.

Let \preceq be a total order on \mathbb{N}^d extending the product order. For a d -variable power series F with p -adic integral coefficients, we introduce the Iwasawa λ -invariant of F associated to \preceq . We give the relationship between such λ -invariants of two power series which are naturally associated to the Γ -transform of a p -adic measure on \mathbb{Z}_p^d . In particular, we show that these new notions of λ -invariants behave as their one-dimensional counterparts with respect to the Γ -transform on p -adic measures. This work generalizes the statement and proof of the analogous result for p -adic measures on \mathbb{Z}_p due to Satoh. We also show how our results can be used to recover similar results for the various λ -invariants of a p -adic measure on \mathbb{Z}_p^d introduced earlier in the literature. (Received July 16, 2014)