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On the Spectrum of Perron-Frobenious Operators on Continuous Functions

We consider piecewise linear and Markov transformations with same slope on an interval. As is well-known, when we restrict the Perron–Frobenius operator associated with the transformation to the set of functions with bounded variation, the spectral radius equals 1 and the essential spectral radius equals the reciprocal of the slope. On the other hand, if the transformation is Markov, the dynamical zeta function is a rational function. Thus, when we consider a suitable domain, there exists possibility that the essential spectral radius may become smaller. In this article, we will study the cases when we restrict its domain to the set of piecewise continuous functions.