

Effective computation of expansivity rates in one-dimensional dynamics

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A rigorous computational method will be introduced for estimating the Lyapunov exponent in uniformly expanding regions of the phase space for one-dimensional maps. This method uses rigorous numerics and graph algorithms. Some new strategies for improving the estimates and decreasing the computational cost will be discussed.

This is joint work with Stefano Luzzatto, Hiroshi Kokubu, Hiroe Oka, and Konstantin Mischaikow.