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SEMINÁRIO DE SISTEMAS DINÂMICOS

Dia 28 de Fevereiro (quarta-feira), sala 6.2.33 - 11:00

Statistical Instability for Rovella Maps

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Abstract:

We consider a one parameter family of one-dimensional maps, introduced by Rovella, obtained through modifying the eigenvalues of the geometric Lorenz attractor, replacing the expanding condition by a contracting one. Rovella proved that there is a positive Lebesgue measure set of parameters such that the derivatives of corresponding maps along critical orbits increase exponentially and the critical orbits have slow recurrence to the critical point. Metzger proved the existence of unique absolutely continuous (with respect to Lebesgue) invariant probability measures (SRB) for those maps. Later on, Alves and Soufi showed that the mapping that assigns the parameter to the density of the SRB measure is continuous (in the L1-norm) on the set of Rovella parameters. In this work, we show that there are parameters with super-stable periodic orbits and prove that the Rovella maps are not statistically stable on an extended set of parameters consisting of Rovella parameters and super-stable parameters.

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