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Timothy J Pennings* (pennings@hope.edu), Timothy J. Pennings, Department of Mathematics, Hope College, Holland, MI 49423. *Does Devaney's definition of SDIC imply a positive Lyapunov constant?* Preliminary report.

Definitions of Chaos always involve the notion of Sensitive Dependence on Initial Conditions (SDIC), but SDIC is defined differently by different authors. Some use Devaney's definition involving the eventual separation of orbits to a given distance, while others define it in terms of a positive Lyapunov exponent. Are these two definitions of SDIC equivalent as is sometimes implied? We will show they are not equivalent by providing a function which satisfies Devaney's definition of SDIC, but which has a non-positive Lyapunov exponent. We will also discuss sensitively which definition is better. (Received September 13, 2000)