

THE HIRSCH CONJECTURE II FORMS OF CHAOTIC SYSTEMS

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Abstract. This paper *demonstrates* that a sufficient condition to determine whether an ODE or an IDE can be determined to have chaotic solutions based on its *form* is that it is possible to identify the elementary dynamics and their boundaries in the form of the ODE or IDE.

A central conclusion that is demonstrated by the examples in this paper is that it is the boundary or interface between the elementary IDEs that determines whether their combined dynamics will produce chaos. A very small perturbation of the boundary can produce a periodic IDE.

The relationship between ODEs and IDEs is found in [1], thus, only IDEs will be examined in this paper.

Keywords. Chaos, natural science, complexity, dynamical synthesis.

AMS (MOS) subject classification: 37D45.

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