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BIFURCATION POINTS IN A NON-ALGEBRAIC MAP

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Abstract

In this paper, we develop suitable numerical methods to obtain periodic points of different periods which are non-negative powers of 2 and corresponding bifurcation points in the nonlinear map f(x,m) = msin(_x), where x 2 R and m is a real parameter. Computer software package 'Mathematica' and c-program are used judiciously to implement our numerical algorithms and subsequently we establish an associated universal property.

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KeyWords : Periodic Points, Bifurcation points, Stable, Unstable, Period Doubling, Feigenbaum constant.

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