Drawing fractals with Matlab: Parameter planes and dynamical planes for families of iterative methods.

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Abstract

Motivated by the second course of numerical analysis in the mathematics degree, this work presents a Matlab App Designer application that facilitates the interpretation of Parameter Planes and Dynamical Planes based on some families of iterative methods. These visual representations play a crucial role in the correct analysis of the dynamical behavior of these families.

The basic algorithm behind the generation of these planes will be explained, and various tests will be performed with the application using different families of iterative methods, comparing them to each other.

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