

A Note on the Fractal Dimension of Mandelbrot Set and Julia Sets in Misiurewicz Points

Authors : O. Boussofi, K. Lamrini Uahabi, M. Atounti

Abstract : The main purpose of this paper is to calculate the fractal dimension of some Julia Sets and Mandelbrot Set in the Misiurewicz Points. Using Matlab to generate the Julia Sets images that match the Misiurewicz points and using a Fractal software, we were able to find different measures that characterize those fractals in textures and other features. We are actually focusing on fractal dimension and the error calculated by the software. When executing the given equation of regression or the log-log slope of image a Box Counting method is applied to the entire image, and chosen settings are available in a FracLac Program. Finally, a comparison is done for each image corresponding to the area (boundary) where Misiurewicz Point is located.

Keywords : box counting, FracLac, fractal dimension, Julia Sets, Mandelbrot Set, Misiurewicz Points

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