Abstract

The dynamics of transcendental function is one of emerging and interesting field of research nowadays. We introduce in this paper the complex dynamics of sine function of the type \( \sin(z^n) - z + c = 0 \) and applied Jungck Ishikawa iteration to generate Relative Superior Mandelbrot set and Relative Superior Julia set. In order to solve this function by Jungck–type iterative schemes, we write it in the form of \( S_z = T_z \), where the function \( T, S \) are defined as \( T_z = \sin(z^n) + c \) and \( S_z = z \). Only mathematical explanations are derived by applying Jungck Ishikawa Iteration for transcendental function in the literature but in this paper we have generated relative Mandelbrot sets and Relative Julia sets.

References

Complex Dynamics of Sine Function using Jungck Ishikawa Iterates

- G. Julia, "Sur l'iteration des functions rationnelles," JMath Pure Appli. 8 (1918), 737-747

Index Terms

Computer Science

Applied Sciences
Keywords

Complex dynamics  Relative Superior Mandelbrot set  Relative Julia set  Jungck Ishikawa Iteration