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 hyperbolic cosine function of the type \( \cosh(z^n) + z + c = 0 \) and applied Jungck Ishikawa iteration to generate new 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 \( T_z = \cosh(z^n) + c \) 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

- J. Milnor, "Dynamics in one complex variable; Introductory lectures"; Vieweg (1999).

Index Terms
Keywords
Complex dynamics  Relative Superior Mandelbrot set  Relative Julia set  Jungck Ishikawa Iteration