Normal Families of Bicomplex Holomorphic Functions

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Abstract

In this talk, we introduce the concept of normal families of bicomplex holomorphic functions to obtain a bicomplex Montel theorem. Moreover, we present a general approach of Fatou and Julia sets for bicomplex polynomials to obtain a characterization of bicomplex Fatou and Julia sets in terms of Fatou set, Julia set and filled-Julia set of one complex variable. Some 3D visual examples of bicomplex Julia sets will be also given for the specific slice $\mathbf{j} = 0$.

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