Approximation of functions by Complex conformable derivative bases in Frechet spaces

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Abstract

In the present paper the representation, in different domains, of analytic functions by complex conformable fractional derivative bases (CCFDB) and complex conformable fractional integral bases (CCFIB) in Frechet space are investigated . Theorems are proved to show that such representation is possible in closed disks, open disks, open regions surrounding closed disks, at the origin and for all entire functions. Also, some results concerning the growth order and type of CCFDB and CCFIB are determined. Moreover the T-property of CCFDB and CCFIB are dis- cussed. The obtained results recover some known results when alpha = 1. Finally, some applications to the CCFDB and CCFIB of Bernoulli, Euler, Bessel and Chebyshev polynomials have been studied.

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