

**APPROXIMATE SOLUTIONS OF A FRACTIONAL  
INTEGRO-DIFFERENTIAL EQUATION BY USING THE CHEBYSHEV  
AND LEGENDRE POLYNOMIALS**

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ABSTRACT. We investigate approximate solutions for a fractional integro-differential equation including the new fractional Caputo-Fabrizio differentiation. In this way, we use the Chebyshev and Legendre polynomials for estimate of the approximate solutions. We give two examples for illustrating our main results.

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