

# EXISTENCE AND STABILITY RESULTS OF $(\mu, \phi)$ -HILFER FRACTIONAL INTEGRO-DIFFERENTIAL EQUATIONS

Mohammed Abbas

**Abstract.** *The current paper discusses the existence, uniqueness and stability results for the solution of a class of nonlinear  $(\mu, \phi)$ -Hilfer fractional integro-differential equations. The results are based on the Schaefer fixed point theorem and the Banach contraction mapping principle. In addition, an numerical example involves the two-step Lagrange polynomial interpolation is given in order to illustrate the validity and applicability of our theoretical conclusions.*

Mohammed Abbas

Department of Mathematics and Computer Science, Faculty of Science,  
Alexandria University, Alexandria 21511, Egypt.

Email: miabbas@alexu.edu.eg