SOME NEW HERMITE–HADAMARD TYPE INEQUALITIES VIA CAPUTO $k$–FRACTIONAL DERIVATIVES CONCERNING $(n+1)$–DIFFERENTIABLE GENERALIZED RELATIVE SEMI–$(r;m,h_1,h_2)$–PREINVEX MAPPINGS

ARTION KASHURI, ROZANA LIKO AND SILVESTRU SEVER DRAGOMIR

Abstract. In this article, we first presented a new identity concerning $(n+1)$-differentiable mappings defined on $m$-invex set via Caputo $k$-fractional derivatives. By using the notion of generalized relative semi-$(r;m,h_1,h_2)$-preinvexity and the obtained identity as an auxiliary result, some new estimates with respect to Hermite-Hadamard type inequalities via Caputo $k$-fractional derivatives are established. It is pointed out that some new special cases can be deduced from main results of the article.


Keywords and phrases: Hermite-Hadamard inequality, Hölder’s inequality, Minkowski inequality, power mean inequality, Caputo $k$-fractional derivatives, $m$-invex.

REFERENCES