

## GENERALIZATIONS OF STEFFENSEN'S INEQUALITY VIA WEIGHTED MONTGOMERY IDENTITY

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*Abstract.* Some new generalizations of Steffensen's inequality are obtained by means of weighted Montgomery identity and estimations between difference of two weighted integral means. Further, functionals associated to these new generalizations are observed and used to generate  $n$ -exponentially and exponentially convex functions as well as to obtain new Stolarsky type means related to these functionals.

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