ON GENERALIZED CSISZÁR $(f, g)$–DIVERGENCE WITH AN APPLICATION FOR $p$–MAJORIZATION

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Abstract. In this note, we develop some ideas from [8]. We introduce and investigate generalized Csiszár $(f, g)$-divergence generated by a convex function $f$ and a concave function $g$. We derive a Csiszár-Körner type inequality for such $(f, g)$-divergences. We also study some special cases of the obtained inequality. In particular, we give a result for $p$-majorization.


Keywords and phrases: Convex/concave function, entrywise positive matrix, column stochastic matrix, generalized Csiszár $(f, g)$-divergence, $p$-stochastic matrix, $p$-majorization.

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