

JOINTLY SUBADDITIVE MAPPINGS INDUCED BY OPERATOR CONVEX FUNCTIONS

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Abstract. In this paper, we study jointly subadditive mappings induced by operator convex functions and generalized inverses of positive linear maps. We formulate conditions under which the inequalities $TfT^{-}\left(\sum_{k=1}^n T_k A_k\right) \leq \sum_{k=1}^n T_k f(A_k)$ and $TfT^{-}\Phi(A) \leq \Phi(f(A))$ hold, where f is an operator convex function, $A, A_k \in \mathbb{B}(H)$ with Hilbert space H , and T, T_k and Φ are positive linear maps (not necessarily unital) on $\mathbb{B}(H)$, with a (reflexive) generalized inverse T^{-} of T . We also show that the transformation $TfT^{-}(B)$ is jointly subadditive in (T, B) and antimonotone in $T(I)$.

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