

Weighted trace inequalities of monotonicity

Hoa D., Tikhonov O.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We study the inequality $\text{Tr}(w(A)f(A)) \leq \text{Tr}(w(A)f(B))$, where $w : \mathbb{R} \rightarrow \mathbb{R}_+$ is a "weight function" and A, B are Hermitian matrices with $A \leq B$, and find corresponding characterizations of the trace.

Keywords

Full matrix algebra, Monotonicity, Trace inequality