

Invariant Nonnegative Relations in Hilbert Spaces

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The concept of μ -scale invariant operator with respect to a unitary transformation in a separable Hilbert space is extended to the case of linear relations (multi-valued linear operators). It is shown that if S is a nonnegative linear relation which is μ -scale invariant for some $\mu > 0$, then its adjoint S^* and its extremal nonnegative selfadjoint extensions are also μ -scale invariant.