ONE–SIDED STAR PARTIAL ORDER PRESERVERS ON $B(H)$

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Abstract. Let $B(H)$ be the algebra of all bounded linear operators on a complex Hilbert space H. We classify (possibly non-additive) maps on $B(H)$, with H infinite dimensional, which preserve either the left-star or the right-star partial order in both directions. We also introduce natural, weaker versions of these partial orders and classify their preservers.

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