IDEAL–TRIANGULARIZABILITY AND COMMUTATORS OF CONSTANT SIGN

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Abstract. Let $E$ be a Banach lattice with order continuous norm, and let $A$ and $B$ be positive compact operators such that the commutator $AB - BA$ is also positive. We prove that if $A$ and $B$ are ideal-triangularizable, then they are simultaneously ideal-triangularizable, or equivalently, the sum $A + B$ is ideal-triangularizable. We then show several related results for operators of constant sign (an operator $T$ on $E$ is of constant sign if either $T$ or $-T$ is positive). In particular, we consider ideal-triangularizability for Lie sets of compact operators of constant sign (a set of operators is a Lie set whenever it is closed under taking commutators).


Keywords and phrases: Banach lattices, positive operators, invariant subspaces, commutators.

REFERENCES


