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Fuglede-Putnam Theorem for ∗-Class A Operators

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Abstract : For a bounded linear operator T acting on a complex infinite dimensional Hilbert space □, we say that T is ∗-class A operator (abbreviation T∈A*) if $|T^2| \geq |T^*|^2$. In this article, we prove the following assertions:(i) we establish some conditions which imply the normality of ∗-class A; (ii) we consider ∗-class A operator T ∈ □(□) with reducing kernel such that TX = XS for some X ∈ □(K, □) and prove the Fuglede-Putnam type theorem when adjoint of S ∈ □(K) is dominant operators; (iii) furthermore, we extend the asymmetric Putnam-Fuglede theorem the class of ∗-class A operators.

Keywords : fuglede-putnam theorem, normal operators, ∗-class a operators, dominant operators
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