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(n,k)–QUASI CLASS Q AND (n,k)–QUASI CLASS Q^* WEIGHTED COMPOSITION OPERATORS

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Abstract. Let T be a bounded linear operator on a complex Hilbert space H. An operator T is called (n,k)-quasi class Q if it satisfies

$$\|T(T^k x)\|^2 \leqslant \frac{1}{n+1}\left(\|T^{1+n}(T^k x)\|^2 + n\|T^k x\|^2\right),$$

and (n,k)-quasi class Q^* if it satisfies

$$\|T^*(T^k x)\|^2 \leqslant \frac{1}{n+1}\left(\|T^{1+n}(T^k x)\|^2 + n\|T^k x\|^2\right),$$

for all $x \in H$ and for some nonnegative integers n and k.

In this paper, we will be studying the conditions under which composition operators and weighted composition operators on $L^2(\mu)$ spaces become (n,k)-quasi class Q operators and (n,k)-quasi class Q^* operators have been obtained in terms of Radon-Nikodym derivative h_m. Some necessary and sufficient conditions for a composition operator C_ϕ on Fock Spaces to be a (n,k)-quasi class Q operators and (n,k)-quasi class Q^* operators have also been explored.

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