

REFLEXIVITY OF MULTIPLICATION
OPERATORS ON WEIGHTED HARDY SPACES

Bahmann Yousefi^{1 §}, Ali Ilooni Kashkooli²

¹Department of Mathematics
Payame Noor University

P.O. Box 19395-3697, Tehran, IRAN
e-mail: b_yousefi@pnu.ac.ir

²Department of Mathematics
Yasouj University
Yasouj, IRAN

e-mail: kashkooli@mail.yu.ac.ir

Abstract: We give sufficient conditions under which the powers of the multiplication operator are reflexive.

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1. Introduction

In this section we include some preparatory material which is needed later. Let X be a reflexive Banach space. For the algebra $\mathcal{B}(X)$ of all bounded operators on the Banach space X , the weak operator topology is the one in which a net A_α converges to A if $A_\alpha x \rightarrow Ax$ weakly, $x \in X$. Recall that if $A \in \mathcal{B}(X)$, then $\text{Lat}(A)$ is by definition the lattice of all invariant subspaces of A , and $\text{AlgLat}(A)$ is the algebra of all operators B in $\mathcal{B}(X)$ such that $\text{Lat}(A) \subset \text{Lat}(B)$. An operator A in $\mathcal{B}(X)$ is said to be *reflexive* if $\text{AlgLat}(A) = W(A)$, where $W(A)$ is the smallest subalgebra of $\mathcal{B}(X)$ that contains A and the identity I and is

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[§]Correspondence author