COMMUTATORS OF TWO COMPRESSED SHIFTS AND THE HARDY SPACE ON THE BIDISC

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Dedicated to Professor Tsuyoshi Ando on his eightieth birthday

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Abstract. For a subset $E$ of the bidisc $D^2$, $M = \{ f \in H^2(D^2) : f = 0 \text{ on } E \}$ and $N$ is the orthogonal complement of $M$ in $H^2(D^2)$ where $H^2(D^2)$ is the two variable Hardy space on $D^2$. We describe the finite rank commutants of the restricted shifts $S_z$ and $S_w$ on $N$ when $E$ satisfies some natural condition. Moreover we give a sufficient condition for that the Pick interpolation is possible.

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