

STRONG UNITARY EQUIVALENCE AND APPROXIMATELY UNITARY EQUIVALENCE OF NORMAL COMPACT OPERATORS OVER TOPOLOGICAL SPACES

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Abstract. Let A and B be compact operators over a topological space X and suppose that these operators are normal and have same distinct eigenvalues at each point. We establish a necessary and sufficient condition for A and B to be strongly unitarily equivalent. When $X = S^1$, we also give a sufficient condition for A and B to be approximately unitarily equivalent under some assumption on their eigenvalues.

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