Unitary similarity of algebras generated by pairs of orthoprojectors

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Abstract

It is shown that the unitary similarity of two matrix algebras generated by pairs of orthoprojectors { P1, Q1} and {P 2,Q2} can be verified by comparing the traces of P 1, Q1, and (P1Q1)i, i = 1, 2, n, with those of P2, Q2, and (P2Q 2)i. The conditions of the unitary similarity of two matrices with quadratic minimal polynomials presented in [A. George and Kh. D. Ikramov, Unitary similarity of matrices with quadratic minimal polynomials, Linear Algebra Appl., 349, 11-16 (2002)] are refined. Bibliography: 10 titles. © 2006 Springer Science+Business Media, Inc.