

UNITARY CONGRUENCES AND POSITIVE BLOCK–MATRICES

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Abstract. In this note we give some two by two block matrices $M = \begin{pmatrix} A & X \\ X^* & B \end{pmatrix}$ where M and $M' = \begin{pmatrix} A & X^* \\ X & B \end{pmatrix}$ are unitarily congruent. We also generalize a class of positive semi-definite block-matrices satisfying the inequality $\|M\| \leq \|A + B\|$ for all symmetric norms.

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