Erratum

Erratum to “Ranks of a Constrained Hermitian Matrix Expression with Applications”

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The equalities (15) and (16) should be deleted from Lemma 3 which will be reformatted as follows.

Lemma 3. Let $A = A^* \in \mathbb{H}_{m \times m}^{m \times m}$, $B \in \mathbb{H}_{m \times n}^{m \times n}$, and $C \in \mathbb{H}_{p \times m}^{p \times m}$ be given. Assume that $\mathcal{R}(B) \subseteq \mathcal{R}(C^*)$. Then,

\[
\begin{align*}
\max_{X} r [ A - BXC - (BXC)^* ] &= \min \left\{ r [ A C^* ], r \begin{bmatrix} A & B \\ B^* & 0 \end{bmatrix} \right\}, \\
\min_{X} r [ A - BXC - (BXC)^* ] &= 2r [ A C^* ] + r \begin{bmatrix} A & B \\ B^* & 0 \end{bmatrix} - 2r \begin{bmatrix} A & B \\ C & 0 \end{bmatrix}.
\end{align*}
\]