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Strong unicity criterion in some space of operators

Abstract: Let X be a finite dimensional Banach space and let $Y \subset X$ be a hyperplane. Let $\mathscr{L}_Y = \{L \in \mathscr{L}(X,Y) : L \mid_Y = 0\}$. In this note, we present sufficient and necessary conditions on $L_0 \in \mathscr{L}_Y$ being a strongly unique best approximation for given $L \in \mathscr{L}(X)$. Next we apply this characterization to the case of $X = l_\infty^n$ and to generalization of Theorem I.1.3 from [12] (see also [13]).