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Complemented Subspaces of Linear Bounded Operators.

We study the complementation of the space $W(X, Y)$ of weakly compact operators, the space $K(X, Y)$ of compact operators, the space $U(X, Y)$ of unconditionally converging operators, and the space $CC(X, Y)$ of completely continuous operators in the space $L(X, Y)$ of bounded linear operators from X to Y . Feder proved that if X is infinite dimensional and $c_0 \hookrightarrow Y$, then $K(X, Y)$ is uncomplemented in $L(X, Y)$. Emmanuele and John showed that if $c_0 \hookrightarrow K(X, Y)$, then $K(X, Y)$ is uncomplemented in $L(X, Y)$. Bator and Lewis showed that if X is not a Grothendieck space and $c_0 \hookrightarrow Y$, then $W(X, Y)$ is uncomplemented in $L(X, Y)$. In this paper, classical results of Kalton and separably determined operator ideals with property (*) are used to obtain complementation results that yield the preceding theorems as corollaries. (Received January 07, 2010)