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Projections from $L(X, Y)$ onto $K(X, Y)$

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Abstract: Generalization of certain results in [Sap] and simplification of the proofs are given. We observe e.g.: Let X and Y be Banach spaces such that X is weakly compactly generated Asplund space and X^* has the approximation property (respectively Y is weakly compactly generated Asplund space and Y^* has the approximation property). Suppose that $L(X, Y) \neq K(X, Y)$ and let $1 < \lambda < 2$. Then X (respectively Y) can be equivalently renormed so that any projection P of $L(X, Y)$ onto $K(X, Y)$ has the sup-norm greater or equal to λ .

Keywords: compact operator, approximation property, reflexive Banach space, projection, separability

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