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Strong Dunford-Pettis Sets and Elton's Trichotomy

J. Elton used an application of Ramsey theory to show that if X is an infinite dimensional Banach space, then c_0 embeds in X , ℓ_1 embeds in X , or there is a subspace of X which fails to have the Dunford-Pettis property. Bessaga and Pelczynski showed that if c_0 embeds in X^* , then ℓ_∞ embeds in X^* . Emmanuele and John showed that if c_0 embeds in $K(X, Y)$, then $K(X, Y)$ is not complemented in $L(X, Y)$. Classical results from Schauder basis theory are used in a study of Dunford-Pettis sets and strong Dunford-Pettis sets to extend each of the preceding theorems.