**Meeting:** 1007, Santa Barbara, California, SS 12A, Special Session on Function Theory

1007-46-109 **Ioana Ghenciu*** (ioana.ghenciu@uwrf.edu), WI, and **Paul W. Lewis** (lewis@unt.edu).

*Dunford-Pettis Properties and Spaces of Operators: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 $X$, $\ell_1$ 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 $\ell_\infty$ 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. The space $L_{w^*}(X^*,Y)$ of $w^*-w$ continuous operators is also studied. (Received February 11, 2005)