ANALYSIS SEMINAR

Geometry of $L^1(\mu)$
for vector valued measure $\mu$

Part III

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Abstract: Let $\mu$ be a measure from a $\sigma$-algebra of subsets of a set $T$ into a sequentially complete Hausdorff topological vector space $X$. Assume that the convex hull of the range of $\mu$ is bounded in $X$ and denote by $L^1(\mu)$ the space of scalar valued functions on $T$ which are integrable with respect to the vector measure $\mu$. Sometimes a property of $X$ is inherited by $L^1(\mu)$. I will show that the bounded multiplier property passes from $X$ to $L^1(\mu)$. Answering a 1972 question of Erik Thomas, I will show that for a large class of $F$-spaces $X$ the non containment of $c_0$ passes onto $L^1(\mu)$.

Students are welcome. An attempt will be made at explaining the notions and the theory of integration with respect to a vector measure.