

# ANALYSIS SEMINAR

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

### Part III

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THURSDAY, OCTOBER 8, 2009 AT 9:30 AM IN HUME 321

**Abstract:** *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.*