

p -variation and p -semivariation on L^p of a vector measure

O. Blasco¹, J.M. Calabuig², E.A. Sánchez Pérez³

Let $1 < p \leq \infty$, X and Y (real) Banach spaces and (Ω, Σ, μ) a finite and positive measure space. It is well-known that the space of vector valued measures $m : \Sigma \rightarrow X$ having p -semivariation (resp. p -variation) finite can be identified with the space of linear and continuous maps (resp. with the space of absolutely absolutely summing operators) from $L^{p'}(\mu)$ into X (see [1]).

In this talk we present the vector valued version of this results when we deal with the spaces $L^{p'}(\nu)$ consisting of scalar functions that are integrable with respect to the (countable additive) vector measure $\nu : \Sigma \rightarrow Y$. We will discuss about the properties of the integration map (see [3]) and finally different examples will be given.

Keywords. Vector measures, integration, absolutely summing operators

References

- [1] Blasco, O., Positive p -summing operators, vector measures and tensor products. *Proc. of Edingurgh Math. Soc.* **31**, (1988) 179-184 .
- [2] Blasco, O., Remarks on the semivariation of vector measures with respect to Banach spaces. *Bull. Austral. Math. Soc.* **75** (2007), no. 3, 469–480.
- [3] Calabuig, J.M., Rodríguez, J. and Sánchez Pérez, E.A., On the structure of L^1 of a vector measure via its integration operator, *Integral Equations and Operator Theory* **64** (2009), 21-33

¹ *Instituto Universitario de Matemática Pura y Aplicada.
Universidad Politécnica de Valencia.*

² *Departamento de Análisis Matemático.
Universidad de Valencia.*

³ *Instituto Universitario de Matemática Pura y Aplicada.
Universidad Politécnica de Valencia.*