DECOUPLING AND STOCHASTIC INTEGRATION IN UMD BANACH SPACES

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Abstract: Rosiński and Suchanek have characterized the class of deterministic $E$-valued functions integrable with respect to Brownian motion, where $E$ is a given Banach space. We extend their result to random predictable integrands in case $E$ belongs to the class UMD. The proof is based upon some new decoupling inequalities for $E$-valued martingale difference sequences.

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