WIENER PROCESSES WITH VALUES IN p-HOMOGENEOUS FRÉCHET SPACES

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Abstract: It is known that Wiener processes taking values in separable Banach spaces can be expanded into series of independent real Brownian processes. This property is very useful in many instances, e.g., in the proof of the law of the iterated logarithm. Known proofs of this theorem are based on the usual convex technique of normed spaces and cannot be adapted for more general situations. In our paper we present a different approach, based on properties of unconditional convergence of double series in vector spaces. This technique allows to extend the theorem to p-homogeneous Fréchet spaces.

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