

On Functionals of the Wiener process in a Banach space

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In development of stochastic analysis in a Banach space one of the main problem is to establish the existence of the stochastic integral from predictable Banach space valued (operator valued) random process. In the problem of representation of the Wiener functional as a stochastic integral we are faced with an inverse problem: we have the stochastic integral as a Banach space valued random element and we are looking for a suitable predictable integrand process. There are positive results only for a narrow class of Banach spaces with special geometry (UMD Banach spaces). We consider this problem in a general Banach space for a Gaussian functional.