

SÉMINAIRE DE PROBABILITÉS (STRASBOURG)

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**Erratum : “A semi-markovian model for the
brownian motion”**

Séminaire de probabilités (Strasbourg), tome 7 (1973), p. 1-2

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The last two pages of M. Mürmann's article:
"A Semi-Markovian Model for the Brownian Motion"
(p. 248-272) were omitted by error:
(proof of proposition 5)

Proof: We have to show that the convergence can be
interchanged with the application of the kernel S
resp. R . In ii) we made a supposition, which just
makes it possible. It can be replaced by correspond-
ing suppositions.

In i) we can show it without further suppositions.
We shall show the weak convergence by the following
characterization of it:

If $A \subset E$ is a Borel set with $v(\partial A) = 0$, then
 $v_n(A) \rightarrow v(A)$. Since μ is a Q -invariant measure,
we have $v = \mu S = \pi_0(\mu)$.

$$\text{So } 0 = v(\partial A) = \pi_0(\mu)(\partial A) =$$

$$\mu(\pi_0^{-1}(\partial A)) \geq \mu(\partial \pi_0^{-1}(A)).$$

Let $B = \pi_0^{-1}(A)$. Then $\mu(\partial B) = 0$ and hence
 $\mu_n(B) \rightarrow \mu(B)$.

$$\begin{aligned}\mu_{n+1}(B) &= (\mu_n Q)(\pi_0^{-1}(A)) = (\mu_n S R)(\pi_0^{-1}(A)) = \\ &= (\mu_n S)(A) = v_{n+1}(A).\end{aligned}$$

Because of $\mu(B) = v(A)$ this completes the proof.

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