"A NEW SETTING FOR POTENTIAL THEORY (part 1)"

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On p. 181, (26) should read as follows:

\[ P_G P_K = P_K \]

Proof that (a) \(\Rightarrow\) (b) should be revised as follows.

Suppose \( Z \) is polar and \( K \) be given. Let \( L \) be compact, \( L \subseteq K \cap Z^c \).

By Proposition 1 of §1, there exists \( h > 0 \) everywhere and \( Uh \leq 1 \). Let \( s = P_K Uh \), then \( s = \lim_n P_{D_n} Uh \) where \( D_n \subseteq K \).

Corollaries 1 and 4 of Theorem 2 (continued), we have

\[ P_{D_n} Uh = U_{\mu_n}, \quad \mu_n \subseteq D_n, \quad \mu(Z) = 0. \]

Hence \( s = \lim_n U_{\mu_n} \), and \( U_{\mu_n} \leq P_{D_n} Uh \leq s \) for all \( n \). Apply Theorem 2 (continued) under (c) to obtain \( \{\mu_{n}\} \) converging vaguely to \( \mu \), such that \( s = U_{\mu} \) and \( \mu(Z) = 0 \), the last assertion by (b) of Theorem 2.

We have \( \mu \subseteq K \) by vague convergence. Thus

\[ s = U_{\mu}, \quad \mu \subseteq K, \quad \mu(Z) = 0, \]

and therefore \( s = W_{\mu} \). For any (open) \( G \supset K \), we have then

\[ P_G s = P_G W_{\mu} = W_{\mu} = s \]

where the second equation is due to the round property of \( w \) and the fact \( \mu \) is supported by \( K \subseteq G \). Thus by the argument on p. 70 of [5]:

\[ \ldots/\ldots \]
which implies that

$$\forall x \in J \Bigl[ x^T \mathbf{K}_x : x \in K \setminus K^r \Bigr] = 0 .$$

This implies easily that for any \( f \in b \mathcal{E}_1 \):

$$P_{K,G} f = P_{K} f$$

which is (26).

N.B. The mistake was to suppose that \( P_{G,K} P_{K,K} = P_{K,K} \) implies \( P_{K,G} P_{K} = P_{K} \).

This was partly caused by a statement on p. 71 of [5] which apparently asserts that \( P_{G,K} \preceq P_{K} \) in general. Dellacherie gave a trivial counterexample to the last assertion, which is left as an exercise.

First display on p. 168 should read:

$$\lim_{t \to \infty} \mathbf{P}_{K,T \to 0}^T \{ T < \infty \} = 0 .$$