

**Chung, K. L.; Hsu, Pei**

**Gauge theorem for the Neumann problem.** (English) Zbl 0585.60064

Stochastic processes, Semin. Evanston/Ill. 1984, Prog. Probab. Stat. 9, 63-70 (1986).

[For the entire collection see [Zbl 0575.00017](#).]

For  $q$  from a certain class the gauge function for the Neumann problem is defined as

$$G_q(x) = \mathbb{E}^x \left( \int_0^\infty \exp \left[ \int_0^{\tau_D} q(X_s) ds \right] dL(s) \right)$$

where  $(L(s); s \geq 0)$  is the boundary local time for the reflected Brownian motion on the bounded domain  $D \subset \mathbb{R}^3$  with  $C^3$ -boundary. The main result is that when  $G_q \not\equiv \infty$  then it is continuous on  $\bar{D}$ .

Reviewer: O.Enchev

**MSC:**

[60H25](#) Random operators and equations (aspects of stochastic analysis)

[60J55](#) Local time and additive functionals

[60J65](#) Brownian motion

Cited in **1** Document

**Keywords:**

[gauge function](#); [Neumann problem](#)