The Annals of Probability
1987, Vol. 15, No. 3, 1229

CORRECTION

LOCAL NONDETERMINISM AND THE ZEROS OF GAUSSIAN PROCESSES

BY JACK CUZICK

The Annals of Probability (1978) **6** 72–84

Professor Simeon Berman has pointed out a gap in the proof of Theorem 1. The problem occurs on page 76 after (8), where an induction argument is invoked. When there exists $j \notin S$ then $h'/h \to 0$ and $t_j/h' \to \infty$, so that the function $g_{h'}(\lambda)$ of Equation (7) will not tend to a limit and Lemma 1 cannot be applied.

The problem can be overcome by replacing the property (R1) in the definition of φ-regularity by the stronger statement that the process has a spectral measure with a continuous component whose density $f(\lambda)$ satisfies

$$f(\lambda/t) \geq f^*(\lambda)t^{2n+1}\varphi(t), \qquad \lambda \geq \lambda_0,\ t \leq t_0,$$

where $f^*(\lambda) \geq 0$ and $\int_0^\infty f^*(\lambda)\,d\lambda > 0$, and adapting the argument in Section 5 of [1]. This condition is only slightly weaker than the one used in Theorem 1 of [2], where strong local φ-nondeterminism is established.

Processes with discrete spectrum are no longer covered. However, Berman has recently obtained results for very regular processes with discrete spectrum [3].

Finally a factor $k!$ was omitted from the bound for $M_k(0, \varepsilon)$ on page 81, and the statement about convergence of the probability generating function of $N(0, T)$ made there and in [2, page 583] can no longer be substantiated.

REFERENCES

[1] BERMAN, S. M. (1973). Local nondeterminism and local times of Gaussian processes. *Indiana Math. J.* **23** 69–94.

[2] CUZICK, J. M. (1977). A lower bound for the prediction error of stationary Gaussian processes. *Indiana Math. J.* **26** 577–584.

[3] BERMAN, S. M. (1986). Spectral conditions for local nondeterminism. Unpublished.

DEPARTMENTS OF MATHEMATICS, STATISTICS AND EPIDEMIOLOGY
IMPERIAL CANCER RESEARCH FUND
P.O. BOX NO. 123
LINCOLN'S INN FIELDS
LONDON WC2A 3PX
ENGLAND

Received November 1986.