

Law of the ponctual process induced by a thesholded gaussian stochastic process

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Let X_t be a gaussian, zero mean, band limited (Band B), stochastic process of constant power spectral density over B.

Let set a threshold T and consider the two induced ponctual process

$T_+ = \{t_{1+}, t_{2+}, \dots\}$ of the crossing threshold time with positive derivative.

$T_- = \{t_{1-}, t_{2-}, \dots\}$ of the crossing threshold time with negative derivative.

I am intersted to determine the law of the delay beween two conscutive time of those process as a function of S, B and N.

Any indication of classical textbook treating of related problem is welcome.

Thank you for helping