INFINITE DIVISIBILITY OF SOME FUNCTIONALS ON STOCHASTIC PROCESSES

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Abstract: The paper deals with non-negative stochastic processes $X(t, \omega)$ $(t \geq 0)$ with stationary and independent increments, continuous on the right sample functions, non-degenerate to 0 and fulfilling the initial condition $X(0, \omega) = 0$. The main aim is to study the probability distribution of the functional $\int_0^\infty e^{-uX(t,\omega)} dt$ for $u > 0$. In particular, the multiplicative infinite divisibility of such functionals is discussed and a description of corresponding spectral measures is established.

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