

ADMISSIBLE PERTURBATIONS OF PROCESSES WITH INDEPENDENT
INCREMENTS

Kazuyuki Inoue

Abstract: We investigate conditions on the law equivalence of R^d -valued stochastically continuous processes with independent increments and with no Gaussian component. This problem is studied from the standpoint of perturbations. Given two processes $X = \{X(t)\}$ and $\hat{X} = \{\hat{X}(t)\}$ independent mutually, we put $X' = \{X'(t) = X(t) + \hat{X}(t)\}$. Then X' is called an admissible perturbation of X if X and X' induce the equivalent probability measures on the space of sample functions. The class of admissible perturbations of X is described in terms of the time-jump measures M and \hat{M} associated with X and \hat{X} , respectively. The fine structure of this class is obtained for processes related to special infinitely divisible distributions such as stable distributions, distributions of class L and their mixtures. A simplified proof is given to the theorem of Skorokhod on the law equivalence of R^d -valued processes with independent increments.

2000 AMS Mathematics Subject Classification: Primary: -; Secondary: -;

Key words and phrases: -

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