

New noise depending on the space parameter and the concept of multiplicity

Si Si

Aichi Prefectural University

Aichi-ken, Japan

Our work is in line with the reductionism applied to the study of random complex system, which may be expressed as functionals of a noise obtained by reducing the given phenomena. A noise, we understand a system of idealized elemental random variables formed by independent identically distributed random variables.

We are particularly interested in the noise which is depending on a continuous space parameter, which is an ordered set. We can define a system $E(\lambda)$, $\lambda \in (0, \infty)$ of projections and therefore appeal to the Stone-Hellinger-Hahn Theorem, where the notion of the multiplicity arise as a characteristic of the noise in question.