

Colloquium

Multiplicities of Linear Systems Based on Space Noise

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地 點：應用數學系多媒體教室（理 408 室）

摘 要：

Start with a Poisson process $P(t, \lambda)$, $t \in (-\infty, \infty)$, $\lambda \in (0, \infty)$, and $P(0, \lambda) = 0$.

For $P(t, \lambda)$, the convergence of $P(t, \lambda)$ is limit in distribution (limit in law). Since we don't have L^2 -norm topology, so we consider with the characteristic functional $\varphi(z)$, and $\psi(z) = \log \varphi(z) = \lambda t (e^{iz} - 1)$. It is easy to see that λt is a one-dimensional inner product, i.e., $\lambda t = (\lambda, t)$, in the sense λ and t are in the dual relation in some sense, where $t \in \mathbb{R}$, and $\lambda \in (0, \infty)$.

Finally, We give a definition which is standard extension to the case where the Hilbert space technique is not applicable but with this notion, we can give an observation of linear systems of a new noise from a view point of dependence of stochastic systems.