ERGODICITY OF POISSON PRODUCTS

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Let $T : X \to X$ be a measure preserving transformation of some infinite-measure space $(X, \mathscr{B}, \mu)$ with $\mu(X) = \infty$.

Associated with T is a natural probablity-preserving map T_* which acts on discrete countable subsets of X, with resepect to the probablity measure defined by Poisson processes on X. This map is called the Poisson suspension of T.

I will review some basic properties of Poisson suspensions.

Under the assumption that the transofrmation T is recurrent and ergodic, I will prove ergodicty of the map $T \times T_*$, which acts on Poisson processes with one "marked partical".