

CHAPTER OVERVIEW

14: The Poisson Process

The Poisson process is one of the most important random processes in probability theory. It is widely used to model random “points” in time and space, such as the times of radioactive emissions, the arrival times of customers at a service center, and the positions of flaws in a piece of material. Several important probability distributions arise naturally from the Poisson process—the Poisson distribution, the exponential distribution, and the gamma distribution. The process has a beautiful mathematical structure, and is used as a foundation for building a number of other, more complicated random processes.

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