

Oberseminar Mathematische Stochastik

Mittwoch, 16. Dezember 2015, 17:00 Uhr, M 6

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Normal approximation of Poisson functionals

Abstract:

In this talk we shall consider functionals of a Poisson process (Poisson random measure) on a general phase space. Using the so-called Stein-Malliavin approach we derive bounds for the Wasserstein and the Kolmogorov distance between such random variables and a standard normal random variable. As an application we discuss geometric functionals of Boolean model of stochastic geometry and the closely related Gilbert graph. In these many other examples our bounds yield the optimal Berry-Esseen rates. Large parts of this talk are based on joint work with Giovanni Peccati (Luxembourg) and Matthias Schulte (Karlsruhe).