

## **On Hypotheses Testing for Poisson Processes: Regular and Singular Cases**

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### **Abstract**

We consider the problem of hypothesis testing in the situation where the first hypothesis is simple and the second one is local one-sided composite. We describe the choice of the thresholds and the power functions of different tests when the intensity function of the observed inhomogeneous Poisson process is either regular, or has a singularity of one of the two following types: cusp and discontinuity. The asymptotic results are illustrated by numerical simulations.