

## Predicting a cyclic Poisson process

Roelof Helmers · I. Wayan Mangku

Received: 28 April 2009 / Revised: 4 January 2012 / Published online: 17 March 2012  
© The Institute of Statistical Mathematics, Tokyo 2012

**Abstract** We construct and investigate a  $(1 - \alpha)$ -upper prediction bound for a future observation of a cyclic Poisson process using past data. A normal based confidence interval for our upper prediction bound is established. A comparison of the new prediction bound with a simpler nonparametric prediction bound is also given.

**Keywords** Poisson process · Cyclic intensity function · Prediction upper bound · Confidence interval · Consistency · Asymptotic normality