

Contribution ID: 22

Type: not specified

## The Shiryaev-Roberts Control Chart for Markovian Count Time Series

Tuesday, 14 September 2021 16:45 (20 minutes)

The research examines the zero-state and the steady-state behavior of the Shiryaev-Roberts (SR) procedure for Markov-dependent count time series, using the Poisson INARCH(1) model as the representative datagenerating count process. For the purpose of easier evaluation, the performance is compared to existing CUSUM results from the literature. The comparison shows that SR performs at least as well as its more popular competitor in detecting changes in the process distribution. In terms of usability, however, the SR procedure has a practical advantage, which is illustrated by an application to a real data set. In sum, the research reveals the SR chart to be the better tool for monitoring Markov-dependent counts.

## Keywords

Statistical process control; count time series; Shiryaev-Roberts

## Special/invited session

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Track Classification: Quality