



## One-sided Control Charts for ZIB / ZIP Process with Estimated Parameters

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Zero-inflated probability models are used to model count data that have an excessive number of zeros. Shewhart-type control charts have been proposed for the monitoring of zero-inflated processes. Usually their performance is evaluated under the assumption of known process parameters. However, in practice, their values are rarely known and they have to be estimated from an in-control historical Phase I sample. In this presentation, we investigate the performance of Shewhart-type control charts for zero-inflated processes with estimated parameters and propose practical guidelines for the statistical design of the examined charts, when the size of the preliminary sample is predetermined.

**Keywords:** Zero-inflated Binomial distribution; Zero-inflated Poisson distribution; Estimated parameters; Average run length (ARL); Standard deviation run length (SDRL).