

## Accepted Manuscript

Title: Process monitoring using PCA-based GLR methods: A comparative study

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PII: S1877-7503(17)31259-0  
DOI: <https://doi.org/10.1016/j.jocs.2018.05.013>  
Reference: JOCS 883

To appear in:

Received date: 13-11-2017  
Revised date: 29-5-2018  
Accepted date: 30-5-2018

Please cite this article as: M.Ziyen Sheriff, M.Nazmul Karim, Hazem N.Nounou, Mohamed N.Nounou, Process monitoring using PCA-based GLR methods: A comparative study, Journal of Computational Science <https://doi.org/10.1016/j.jocs.2018.05.013>

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# Process monitoring using PCA-based GLR methods: A comparative study

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## Highlights:

- A PCA-based generalized likelihood ratio (GLR) fault detection algorithm is presented
- The performances of various GLR fault detection statistics that are designed to detect different types of faults (e.g., mean shifts, variance changes, or both) are compared
- Simulation results show that a GLR statistic that is designed for a specific type of fault is proven advantageous over a statistic that is designed to detect several fault types
- A discussion on the effect of other practical issues, such as the moving window length used and the duration of the faults, is also presented

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