



## Fault detection with Conditional Gaussian Network

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Auteur	Atoui, Mohamed Amine [1], Verron, Sylvain [2], Kobi, Abdessamad [3]
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Mots-clés	Conditional Gaussian Networks [4], fault detection [5], Hot Forming Process [6], PCA [7], Statistical inference [8], Tennessee Eastman Process [9]
Résumé en anglais	<p>The main interest of this paper is to illustrate a new representation of the Principal Component Analysis (PCA) for fault detection under a Conditional Gaussian Network (CGN), a special case of Bayesian networks. PCA and its associated quadratic statistics such as T2 and SPE are integrated under a sole CGN. The proposed framework projects a new observation into an orthogonal space and gives probabilities on the state of the system. It could do so even when some data in the sample test are missing. This paper also gives the probabilities thresholds to use in order to match quadratic statistics decisions. The proposed network is validated and compared to the standard PCA scheme for fault detection on the Tennessee Eastman Process and the Hot Forming Process.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua13842">http://okina.univ-angers.fr/publications/ua13842</a> [10]
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### Liens

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