Fault detection with bayesian network

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Résumé en anglais	The purpose of this chapter is to present a method for the fault detection in multivariate process, with a bayesian network. In this context, the detection is viewed as a classification task like the discriminant analysis, which can be transposed in a bayesian network. We prove mathematically the equivalence between the usual detection methods that are the multivariate control charts (Hotelling's T^2, MEWMA) and the quadratic discriminant analysis (in a bayesian network). So, this makes possible the fault detection with a bayesian network. An application on the Tennessee Eastman Process is given in order to demonstrate the approach.
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