

Development of fault information methodologies for monitoring and diagnosis system

편하현, 하대근, 한중훈*
서울대학교
(chhan@snu.ac.kr*)

Fault detection and diagnosis are highly developed in academic area. Therefore, there are so many algorithms and these application. However, in industrial world, just univariate sensing data is used. So it is necessary to close this gap.

To improve monitoring and diagnosis system in industrial world, multivariate methodology is applied. In this study, PCA, one of the most common multivariate methodologies, is suggested as a monitoring system. When fault is detected by PCA method, three steps methodology for diagnosis are suggested; fault propagation, fault magnitude and its event matrix analysis. This suggested methodology is demonstrated to application of LNG fractionation process. As a result, the application of this methodology has rapid detection and accurate performance compared to using only univariate monitoring and fault diagnosis system.

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