

### Reduction of fault alarm in LNG Plant using PCA

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

Fault detection is one of the most important tasks for the successful operation of any process. Process monitoring plays an important role in detecting process upsets, equipment malfunctions, or other special events as early as possible. But univariate monitoring system has some limits So multivariate statistical process control(MSPC) has been widely used for monitoring chemical process with highly correlated variables. A popular method for reducing the dimensionality of process variable space is principal component analysis. And Process monitoring systems are required not only to detect changes in a process as early as possible but also to reduce the number of false alarms. In this study, using principal component analysis for effective fault detection and change in variable correlation and latent structure at fault mode occurrence to reduce the number of false alarms in chemical plant.

Acknowledgement: This research was supported by a grant from the LNG Plant R&D Center funded by the Ministry of Land, Transportation and Maritime Affairs(MLTM) of the Korean government.