# Pattern Mining for Prediction and Suppression of Industrial Alarm Floods

**Wenkai Hu**[*1]
[*1]School of Automation, China University of Geosciences, Wuhan 430074, China
E-mail: wenkaihu@cug.edu.cn

**Abstract. Alarm floods are among the most difficult issues in industrial alarm monitoring and have been identified as causes of many industrial accidents. During an alarm flood situation, the operator is overwhelmed by a large number of alarms and thus may fail to reorganize critical alarms. As a result, it could be almost impossible to make corrective actions, leading to deterioration of the situation and even causing serious consequences. To handle alarm floods and mitigate their negative influences to process operation, pattern mining has been exploited to extract interesting patterns that are then used for decision supports in alarm monitoring. This abstract mainly introduces the advanced methods and results on pattern mining for prediction and suppression of industrial alarm floods, including similarity analysis, pattern extraction, and real-time matching. Case studies are presented to demonstrate the effectiveness and practicality of these techniques.**

**Keywords: Alarm monitoring, alarm floods, pattern mining, similarity analysis**