Automatic Accident Scenario Generation and Multiobjective Optimization for Safety-Related Decision Making in Chemical Processes

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Abstract
Safety investment in Chemical Process Industries (CPI) has been required regarding process safety together with economic aspects. This paper concerns an automatic accident scenario generation and multiobjective optimization method for finding the most effective investment scenario set in CPI. Accident scenarios make up a decision pool for safety investment, and the multiobjective optimization method determines the efficient investment scenario set under the given constraints, such as a limited budget, environmental requirements and social demands.

Keywords: accident scenario, multiobjective optimization, decision making, safety

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