

## Monte Carlo Based Framework to Support HAZOP Study - DTU Orbit (09/11/2017)

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This study combines Monte Carlo based process simulation features with classical hazard identification techniques for consequences of deviations from normal operating conditions investigation and process safety examination. A Monte Carlo based method has been used to sample and evaluate different deviations in process parameters simultaneously, thereby bringing an improvement to the Hazard and Operability study (HAZOP), which normally considers only one at a time deviation in process parameters. Furthermore, Monte Carlo filtering was then used to identify operability and hazard issues including inefficient, uneconomical and unsafe conditions. Appropriate process modifications to mitigate deviations from normal operation ensuring process safety are also provided.

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