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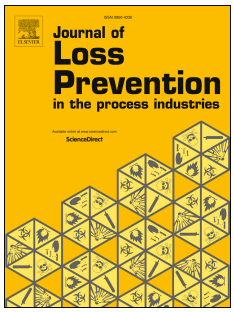

The vulnerability of industrial equipment to tsunami

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THE VULNERABILITY OF INDUSTRIAL EQUIPMENT TO TSUNAMI

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ABSTRACT

The evaluation of vulnerability of process equipment to natural events is a central issue in the analysis of NaTech risks (Natural events triggering Technological accidents). Among others, the recent event in Japan has alerted the public opinion regarding the occurrence of tsunamis, which may result in dramatic consequences, either related to economic losses due to service interruption and repair costs, or for escalation of the tsunami towards severe catastrophic scenarios related to the loss of containment for the damaged equipment. Hence, environmental pollution, toxic dispersions, fires or explosions, depending on the stored, processed or transported fluid, on the structural design, and on the type of process operations.
In this work, the hazard related to tsunami impact on industrial equipment has been analyzed, either for the natural event characterization (intensity measure, hazard), or for the particular critical infrastructure. Vulnerability (or Fragility) functions have been specifically defined with respect to tsunami wave and debris.

Keywords: *NaTech, Tsunami, Domino effects, Impact, Debris*

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