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Evacuation analysis of open deck areas on passenger ships

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Passenger ships evacuation analysis is nowadays a required step in the ship design process. In this sense, a new set of international Regulations has been issued to improve the survival ability of passenger and ro-ro ships. The “Safe Return to Port” Regulation is referring to the need to grant adequate ship functionality when a casualty occurs (e.g. fire or flooding), requiring the ship evacuation when damage exceeds a given threshold. For such a reason, the evacuation analysis is mandatory for both new and existing passenger and ro-ro ships, since the early stages of design. The International Maritime Organisation Guidelines prescribe the examination of additional scenarios besides the standard ones. The present work presents a case study for the evacuation of a 4906-person cruise ship, considering the specific example of the open deck, which is one of the additional scenarios required by regulations. The advanced calculation method has been used to simulate the evacuation process, using software EVI.

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