

SURVIVABILITY ASSESSMENT OF FASTNET LIGHTHOUSE

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INTRODUCTION AND OBJECTIVES

Historic rock-mounted lighthouses play a vital role in the safe navigation around perilous reefs. However their longevity is threatened by the battering of waves. Virtual navigational aids such as GPS are fallible, and reliance on them can be disastrous. Mariners will therefore continue to need the physical visual aids of these strategic structures. After a site-specific extreme wave characterisation, the study evaluates the dynamic response of Fastnet Lighthouse (Figure 1) under the action of different wave loadings through a validated FEM numerical model. The aim of the study is to provide a comprehensive survivability assessment methodology for these type of structures.

Figure 1 Fastnet lighthouse rock and location (inset)

METHODS

Three main activities characterize the study: