

عنوان مقاله:

SEISMIC PERFORMANCE ASSESSMENT OF MONOPILE FOUNDATION OF OFFSHORE WIND TURBINE AGAINST NEAR-FIELD AND FAR-FIELD EARTHQUAKES

محل انتشار:

نهمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1403)

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خلاصه مقاله:

Nowadays, offshore wind turbines (OWTs) have become a major renewable energy source. However, many of the offshore wind farms planned recently are located in seismic-prone areas, which introduces some challenges regarding their foundation design. In this study, the seismic behavior of a 5 MW offshore wind turbine on the monopile foundation embedded in liquefiable soil is investigated under near-field and far-field earthquakes using the finite element Method. The results of this study showed that the seismic response of the monopile-superstructure system under near-field earthquakes was more critical despite the shorter duration and the smaller arias intensity of those earthquakes. It highlighted the remarkable effect of the other parameters such as near-field pulse which contained a lot of energy

کلمات کلیدی:

Offshore Wind Turbine, Monopile Foundation, Seismic Response, Near-Field and Far-field Earthquakes, Liquefaction, Finite Element Modeling

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