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彰濱外海風力發電場址之海象調查與研究
Investigation of Sea States in the Area of an Offshore Wind Farm

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摘要

　　離岸風力發電為我國積極推動的再生能源技術。雖然強勁的風速雖能帶來豐富的電力，但同時也可能會引起惡劣的海況，造成風力機施工與維運的風險。本文研究團隊與永傳能源股份有限公司進行產學合作，以該公司之海上施工需求為導向，目標完成風力發電場址的長期海氣象特徵調查與研究。現階段已完成的工作包括：(1)獲得彰濱海域的海氣象資料；(2)完成彰化海域波譜模型之研究、建置與波譜資料分析測試及(3)完成海上風力發電場址的系集波浪模式發展，並成功應用於波浪模式，特別是模擬極端波浪的準確度已提升。協助產業界完整釐清發電廠址所在海域的波浪特性，進而讓施工單位能透過海域環境條件評估出最佳的施工方式，藉以確保未來海上發電機組施工與結構之安全。

關鍵詞：資料浮標、波浪特徵、波譜分析、系集波浪模式。

Abstract

　Offshore wind power is one of the most potential renewable energy in the Taiwan Strait. However, the strong wind is also the main driver of severe sea states. The information of sea states is always the key to ensure the safety of the ocean engineering. To assist the development of the offshore wind power industry, we collaborate with the Taiwan Generations Corporation on the studies of ocean waves. We focus on the issues of wave observation, analysis, and prediction using the data buoy and numerical model. We can confirm the features of sea states in our study area. The prediction of waves can be achieved as well.

Keywords: Data buoy, wave features, wave spectrum, ensemble wave prediction.