

عنوان مقاله:

Modeling the hydrodynamic behavior of sea waves and wind currents in floating structures with computational fluid dynamics

محل انتشار:

بیستمین همایش صنایع دریایی (سال: 1397)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Many years ago studies have been done on the waves of the sea and the oceans, the effects of wind flow and associated parameters, where it has become one of the most practical principles for the initial design of the floats. The most common issue is that the marine society is concerned with the deployment of floating ships to the confines of the waves with its body structure. Recognition of the sea, the identification of the waves of different areas in different seasons, climatic and atmospheric influences are significant points for assigning the types of missions to marine species. So that the lack of sufficient information about the weather conditions of any area may have irrecoverable effects for the crew and the flotilla. therefore by carefully analyzing the environmental conditions in numerical or laboratory conditions, according to available facilities, a suitable flotation with specific physical conditions could be sent to the sea to minimize damage and to make a fundamental step to improve the marine situation and personnel of the ship. In this way, the safety factor and quality of sailing will increase. In this paper, different waves are studied and various models are modeled and floated by the model, which yielded acceptable results, also by specifying the points on the waves of pressure and velocity, and calculating the corresponding contours on the body also analyzed. For numerical modeling, we use the powerful STAR CCM software and the process of wave analysis in water is simulated under two phase conditions.

کلمات کلیدی:

Numerical modeling, Sea and ocean waves, Wind effect, Atmospheric conditions

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