



Correlating Iranian Buoy and Oceanor Buoy With Analytical Comparison

[مجید اسکافی majid . eskafi]

Key Words: *Iranian Buoy, Field measurement, Correlation coefficient, Caspian Sea*

Abstract

The reliability and accuracy of acquisition meteorological data and oceanographic parameters has been the subject of numerous investigations in the past several years. Most studies were severely hampered by the lack of suitable data set from coastal and ocean engineering point of view. In-situ deployed instruments of directional wave measurements in deep water locations are intrinsically difficult to measure without the use of a surface wave buoy; therefore these instruments play an important role for a large variety of scientific research and operational applications. Increasing demand for directional wave information has led to the development of new instrumentation and analysis procedures. In this regard Iranian buoy are designed and constructed. Although the wave buoy can provide wave parameters with high precise, but to get useful values data, crosscheck and calibrations of sensors are essential. However in this research the measurements were conducted simultaneously at neighbouring location over one month between operational parameter of Iranian and Oceanor buoys at the Caspian Sea. The results and comparison with other theories is shown in the form of statistical diagrams and scatter plots.

1-Introduction

Environmental parameters such as significant height, peak period and prevailing direction of waves are key engineering variables that describe the wave climate at a site of interest and dictate the design of marine structures. The alignment of harbor breakwaters and the direction of littoral drift would certainly depend upon the mean wave direction. An understanding of the operation, reliability and applicability of moored floating data buoys would prove useful when they designed with field experiments.

*Some of the pioneering contributions to the concept of the directional spectrum and its measurement and application are the books *Ocean Wave Spectra*, conference proceedings in particular the series of WAVES conferences [5]. [12] Presented a good agreement between surface buoys in comparison with benthic device to analysis of wave height. [6] Method was used to obtain the directional wave spectra, and significant wave heights were obtained by integrating the directional wave spectra over all directions and the selected frequency band.*

2-Methodology

To study and analysis of ocean and coastal parameter there are tree common and useful method as follows; Remote sensing techniques, Surface measurement techniques and benthic measurement techniques. Benthic measurement techniques like Acoustic Doppler Current Profilers (ADCP) do not have the appropriate data collection and processing technique to be mounted on a subsurface buoy. The ADCP uses each depth cell along each beam as a sensor and