



## ***Comparison of statistical (Q-Q plot) and classical calibration methods in wave modeling***

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### ***1-ABSTRACT***

*This study aims to calibrate a numerical wave model in west of Hormozgan province in Iran by using classical methods like time series comparison and statistical methods like Quantile-Quantile plot and statistical parameters comparison. The spectrum wave model MIKE21 SW has been applied and the calibration process has been done by using one year wave characteristics measurements in Nakhiloo. In this article, at first the numerical model and measurement situation has been introduced and then the model results have been calibrated by comparison of time series, Q-Q plots and statistical parameters. At the end, a proper wave models calibration procedure has been presented.*

### ***2-INTRODUCTION***

*In recent years, using numerical models has been common for prediction of wave climate. In using numerical models, the most important factor for coastal engineers is selection of best calibration and verification methods to obtain suitable results. In this paper, MIKE21SW software has been used for modeling of wave climate in west of Hormozgan province. Then by using measurement data for a period of 1 year in Nakhiloo, the numerical model has been calibrated by statistical methods like Q-Q plot and computation of statistical parameters, and also by comparison of time series. The purpose of this research is studying and discussing on the advantages and disadvantages of each calibration method.*

### ***3-MEASUREMENT DATA***

*The measurement data has been used in this study, are wave characteristics measurement for zone 3 of special energy site in Nakhiloo, [1]. These data have been measured by a Mini ADV Nortek equipment in depth 10.35m to CD. The measurement duration is one year from 2005/10 to 2006/10 with time interval of one hour. The time series of significant wave height of these measurements are shown in Fig. 1. Also, the measurement station situation is shown in Fig. 2.*