

Abstract Submitted
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Parameterization of turbulence characteristics of Atmospheric surface layer in Qatar ARINDAM SINGHA, Postdoctoral Research Associate, REZA SADR, Assistant Professor — Turbulent characteristics of atmospheric boundary layer are of utmost importance in modeling the large-scale meteorological processes, diffusion of atmospheric contaminants, heat transfer and evaporation from the earth surface. Available data are for some areas on the globe and are really sparse in tropical regions, except a few recent studies in Asia. There had been some recent studies in tropical weather in southwestern Asia but no study is carried out in Persian Gulf region. An atmospheric measurement station has been designed and installed in a site in the coastal region of Doha, Qatar, to characterize the nature of atmosphere surface layer (ASL) and ocean wave characteristics in this field. The aim of the present study is to report the micrometeorological data collected from this site. The normalized variation of the turbulent velocity components and temperature were studied using Monin-Obukhov similarity theory (MOST). This study also attempts to verify the validity of MOST in the context of the data collected for a marine ASL in Qatar, and compares the modeling parameters with other investigations around the world. This is the first ever study of ASL in this area, and is expected to be a foundation of further atmospheric research endeavors in Qatar.

Arindam Singha
Postdoctoral Research Associate

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