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**Spectral characteristics of atmospheric surface layer turbulence in Qatar** REZA SADR, ARINDAM SINGHA, Texas A&M University at Qatar, MICRO SCALE THERMOFLUIDS LABORATORY TEAM — 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. Meteorological data are available for some areas of the globe but are sparse in tropical regions. There had been some recent studies in tropical weather in southwestern Asia but no study is carried out in Persian Gulf region. The present study reports the micrometeorological data collected from an atmospheric measurement station in the coastal region of Doha, Qatar, to characterize the nature of atmosphere surface layer (ASL) and ocean wave in this region. In the present work turbulence velocity spectra in this region is presented and compared with the available data from other locations. Also, empirical relationship for the normalized dissipation function in this region is suggested. Finally, variation of different length scales with the stability parameter  $z/L$  is investigated and compare with the existing values in available literatures. 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.

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