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Mesosphere/lower thermosphere prevailing wind model

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Abstract

The mesosphere/lower thermosphere (MLT) wind data from the 46 ground-based (GB) MF and meteor radar (MR) stations, located at the different latitudes over the globe, and the space-based (SB) HRDI data were used for constructing of the empirical global climatic 2-D prevailing wind model at 80–100 km heights for all months of the year. The main data set is obtained during 1990–2001 period. It is shown that the three datasets (MF, MR, HRDI) are mainly well correlated. However, a certain systematic bias between the GB and SB data at 96 km exists, as well as that between the MF and MR data higher 88 km. Simple correction factors are proposed to minimize these biases. The 2-D distant-weighted least-square interpolation procedure for some arbitrary

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