**VALIDATION OF SATELLITE RETRIEVED OZONE PROFILES USING IN SITU OZONESONDE DATA OVER THE INDIAN ANTARCTIC STATION, BHARATI**

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Ozonesonde data obtained for the period between February 2016 and July 2019 from the Indian Antarctic station ‘Bharati’ were used for validation of the satellite retrieved profiles (v4.2) from the Microwave Limb Sounder (MLS) onboard the NASA Aura satellite in the upper troposphere – lower stratosphere (UTLS) region. As Bharati is located in coastal Antarctica, it occasionally falls in and out of the ‘ozone hole’ over Antarctica mainly due to dynamics of the polar vortex. This results in drastic variability in the vertical distribution as well as the total columnar concentration of ozone over Bharati. It was observed that the MLS consistently overestimated the concentration of ozone in all the vertical layers by a minimum of about 5% at approximately 121 hPa and a maximum of about 49% at approximately 8 hPa and an overestimation of about 30% at 68 hPa level where the peak in the ozone layer is observed. However, qualitatively, the vertical distribution, the peak of ozone concentration and its deviation were accurately estimated in the MLS profiles. The coefficient of correlation between the ozonesondes and the MLS data was found to be good at R2 = 0.97 (P<0.0001). While the variability of ozone at the surface and different pressure levels were correctly captured by the MLS retrieved profiles, the concentrations themselves were overestimated as compared to the in situ ozonesonde profile data.

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