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Changes in Surface Irradiance and Meteorological Parameters over India Associated with Annular Solar Eclipse of 15 January 2010

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An Annular Solar Eclipse (ASE) occurred on 15 January 2010, which was observed in most parts of India. This short paper reports the changes observed in solar irradiance and meteorological parameters (temperature [T], relative humidity [RH] and dew point) associated with the ASE mainly at three locations (Greater Noida, Kanpur and Hyderabad) in India that are located far away from the eclipse path. A decrease in solar irradiance in the range of 25-59% (maximum in Hyderabad and minimum in Greater Noida) as well as a slight decrease in RH is observed during solar eclipse. The radiosonde and AIRS data show changes in the normal trend of meteorological conditions at different pressure levels indicating the influence of solar eclipse, which also affected (increase) HCHO concentrations observed by Aura-OMI satellite sensor.