## STUDY OF AEROSOL EFFECT ON THE DISTRIBUTION OF SOLAR RADIATION OVER HYDERABAD UNDER CLEAR-SKY CONDITIONS

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## **ABSTRACT:**

Atmospheric aerosols, both natural and anthropogenic play an important role for the Earthatmosphere energy budget. A time dependent study of the concentration and distribution of aerosols and its coupling to the climatic variables is a key to the building of a climate model. Aerosols have both direct and indirect impact to the planet's radiative forcing, which in turn drives the global and regional climate patterns, influencing process in the atmospheric boundary layer, the hydrological cycle, and surface temperature over the globe. The strong spatial and temporal variation of aerosol mass and particle number concentrations due to their much shorter atmospheric lifetime compared with the important greenhouse gases make its more complexes to quantify the aerosol effects.

In this paper, we focus on the direct radiative effect of aerosols and present data taken over Hyderabad in clear sky conditions. Simultaneous measurement of S-band radio flux from the sun and measurements of sudden ionospheric disturbances indicating the solar activity are also presented for comparison.