STUDY OF SPECTRAL EXPONENT ON QUIET AND DISTURBED DAYS

Santosh Kumar
Rani Durgavati University, Jabalpur.India.

ABSTRACT

The spectral exponents of the diurnal and semi-diurnal anisotropies are studied on quiet and disturbed days for a period from 1964 to 75. It has been observed for the diurnal anisotropy that the spectral exponent for quiet days is 0.0 from 1964 to 70, however during 1971 and onwards its value is found different from zero and is -0.4; for disturbed days the spectral exponent is observed to be 0.0 from 1964 to 75 with an exception of the year 1966. Further, it has been observed for the semi-diurnal anisotropy that the best value for the spectral exponent on quiet days being + 0.6 from 1964 to 74; however on disturbed days the value of spectral exponent is sometimes negative or positive but different from zero. It has been derived from the present investigation that superimposed on the corotational anisotropy, expected from a balance between outward radial convection and inward field alligned diffusion, there is an additional component operating during the period under consideration.

Key words: Spectral exponent,   quiet days,   diurnal,

semi-diurnal

☐ Theoretical   ☐ Observational   ☒ Both

Paper to be presented by : Dr. Santosh Kumar

Name and address for scientific correspondence :

Dr.Santosh Kumar
Department of Post Graduate Studies and
Research in Physics,
Rani Durgavati University,
Jabalpur (M.P.) - 482001 (INDIA)