LONG TERM TRENDS IN SEMI-DIURNAL ANISOTROPY AND EFFECT OF SOLAR POLOIDAL MAGNETIC FIELD INVERSION

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The long term trend and effect of the reversal of polarity of Solar poloidal magnetic field (SPMF) on semi-diurnal anisotropy of cosmic ray (CR) intensity on quiet days for the period 1964-95, covering three solar cycles namely 20,21 and 22 have been studied using Deep River neutron monitor data. Semi diurnal anisotropy shows sudden changes to early/later hours near to CR intensity minima or maxima. The amplitude of semi-diurnal anisotropy shows an increase followed by decrease during inversion of solar poloidal magnetic field. The average vectors for negative polarity of SPMF in northern hemisphere (NH) during 1964-70 and 1981-90 are shifted to later hours relative to the average vectors for the entire period of observation.