

Statistical characteristics of Pc3 geomagnetic micropulsations with reference to Kp

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Geomagnetic pulsations in Pc3 frequency range were recorded simultaneously in south-east Australia using an array of four low latitude induction coil magnetometer stations over a longitudinal range of 17° at $L = 1.8$ to 2.7 . The stations were situated at Woomera (41.7°S , 209.1°E geomagnetic), Broken Hill (42.4°S , 214.5°E), Newcastle (42.0°S , 226.3°E) and Launceston (52.4°S , 231.1°E). Geomagnetic data over a period of six months were digitized and the study of Pc3 characteristics on Kp was undertaken. The Pc3 occurrence was found to be evenly distributed with magnetic activity over $Kp = 2-5$ range. Launceston, however, showed lower occurrence at lower Kp values ($Kp < 2+$) than the other three stations. The Pc3 occurrence probability normalized with respect to Kp occurrence was maximum for $Kp = 4+$ at all the four stations. It is also worth noting that in winter months Pc3 was observed during intense magnetic activity when $5 < Kp < 9$. Finally a gradual increase in the Pc3 average, lower and upper frequencies limit with Kp was observed during the local months for $Kp < 5$.