LOG PERIODIC DIPOLE ANTENNA PERFORMANCE FOR SOLAR BURST MONITORING

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ABSTRACT

Logarithmic periodic dipole antenna (LPDA) was constructed for monitoring Sun in the range of (45 -870) MHz to precisely match the environmental requirements. We choose rod aluminium's type as a conductor with nineteenth (19) elements of different sizes. Beside established construction techniques, several test setups have been used to fulfil the requirements on solar radio detection. The performance testing has been done at National Space Agency (PAN), Sg. Lang, Banting Selangor by connected to the CALLISTO spectrometer. The input impedance, R_0 50 ohm is chosen for this LPDA antenna. We also select element factor (τ) and spacing factor (σ) give in the subtended angle of 3.43 degrees. As a results bandwidth ratio (B = 870 MHz /45MHz) of 19.33 gives bandwidth as 2.14. Power flux density of the burst is 1.85 x 10^{-21} W/Hz. Based on our results, we conclude that this antenna is suitable for to observe the Sun activities at low frequencies.