



Effects of geomagnetic storms in the amplitudes of the first three modes of the Schumann Resonance.

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To assess the effect of geomagnetically disturbed days on the amplitudes of the first three modes of the Schumann Resonance (SR), we analyzed 14-day periods of data around the day of a geomagnetic storm (GS). We considered Dst indices lower than ~ -70 nT corresponding to moderate - severe geomagnetic storms. To compare the behavior of the SR signal between days without disturbances in the geomagnetic field (quiet days) and days when a GS occurred (disturbed days), we analyzed data for the years 2015 to 2017 where we found five 14-day periods of SR recorded data that were adequate to perform the analysis. In all cases we found a statistically significant increase (> 1 sigma) in the average amplitude of the three main SR frequencies of the horizontal magnetic field components during the geomagnetically perturbed days. Such increase might be affected by other natural phenomena, such as thunder and lightning activity measured by a local electric field record, or earthquake occurrence. We use data of a SR station located in Coeneo, Michoacán, México (geographic coordinates $19^{\circ} 48' 19''$ N, $101^{\circ} 41' 39''$ W; magnetic coordinates 29° N, 174° W; 1964 m asl)