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ACOUSTIC GRAVITY WAVES OF TROPOSPHERE/SEISMIC ORIGIN THAT MAY TRIGGER THE COLLISIONAL INTERCHANGE INSTABILITY IN THE IONOSPHERE

Kherani E.Alam[⋆], M.A. Abdu[⋆], E.R. de Paula[⋆] and P. Lognonne[†]

[⋆]Instituto Nacional de Pesquisais Espaciais (INPE)
Sao Jose dos Campos, Sao Paulo, Brazil

[†]Institute de Physique du Globo de Paris (IPGP)
Av. Neptune, Saint More de Fosses, Paris, France.

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Abstract. Acoustic Gravity waves (AGWs) are launched in the Atmosphere during convective activity at the troposphere heights. They are also launched prior and during an Earthquake owing to the energy deposition at the Earths surface. The interactions of AGWs with the Ionosphere may manifest in varieties such as density and electromagnetic signatures in the E and F region of Ionosphere. These waves may also act as a seeding for the excitation of Collisional-Interchange Instability (CII) which gives rise to the plasma irregularities in the Ionosphere. In the present theoretical work, the possibility of excitation of CII by seeding of AGWs of troposphere/seismic origin will be explored. To do so, numerical simulation of AGWs in the atmosphere and CII in the Ionosphere will be carried out.