

Seasonal variations in linear growth rate of the collisional Rayleigh-Taylor instability

C. C. Lee (1)

(1) General Education Center, Ching-Yun University, Jhongli City, Taoyuan County, Taiwan, China (cclee@cyu.edu.tw / Fax: +886-3-4684024)

In this work, the linear growth rate of collisional Rayleigh-Taylor (CRT) instability is estimated using the electron profile of F-region, the neutral compositions, and the atmosphere temperature. The electron profile of F-region is obtained from the ionogram near the dip equator; while the neutral compositions and atmosphere temperature are modeled by the MSIS-E-90 model. In this study, the height profiles of growth rate during 1600-2200 LT are computed. The monthly average of the growth rate profile is further deduced to examine the seasonal variation in the growth rate. Moreover, the results are used to compare with the occurrence probabilities of the spread F.