

Abstract Submitted
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A new model of the electron temperature in the topside ionosphere ZAHRA PANAHI ESTARKHI¹, ALI BAKHSHAYESHI², Islamic Azad University of Mashhad — hra Panahi Estarkhi, Ali Bakhshayeshi *Young Researchers and Elite club, Mashhad Branch, Islamic Azad University, Mashhad, Iran Department of physics, Mashhad Branch, Islamic Azad University, Mashhad, Iran* -abstract- By using empirical models of electron density in the ionosphere, height equations as a function of electron density from α -Chapman, Epstein and exponential functions have been achieved. Plotting the achieved height equations, the one derived from Epstein function has been known as the best fit for height. Locating height derived from Epstein function in an empirical function for electron temperature, a new empirical model for electron temperature as a function of electron density has been achieved and applied to obtain directly the electron temperature for every electron density in the topside ionosphere. Latitudinal and seasonal variations for T_e have been plotted in the heights above hmF2 to 1000km to compare the new T_e model with the previous empirical model and the measured data from the ISIS database. The results are compared and the possible reasons for difference and similarities are also discussed.

¹Phd student

²Physics teacher at Islamic Azad University of Mashhad

Zahra Panahi
Shahid Beheshti Univ

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