

國立中央大學98學年度碩士班考試入學試題卷

所別：太空科學研究所碩士班 一般生 科目：電離層物理 共 頁 第 頁

*請在試卷答案卷(卡)內作答

1. Describe the *Diurnal, Seasonal, Solar cycle variation and Geographical variation* of the ionosphere. (10%)
2. What are the significant differences between an ionosonde and an incoherent scatter sounder? State the parameters detected by the ISR. (10%)
3. (a) Draw a typical ionogram obtained by ionosondes. (10%)
(b) List the ionosonde parameters. (10%)
4. State the mechanism of "Auroral electrojet" and "Equatorial Electrojet" (20%)
5. With the $f_oF2 = 10$ MHz:
 - (1) What will happen to a vertically transmitted electromagnetic wave with a frequency of 20MHz ? (5%)
 - (2) How to get the returned signal with a wave transmitted with the frequency of 20 MHz, and what is the electron density at the altitude where the wave is reflected? (10%)
6. 解釋名詞: (25%)
 - (1) Ambipolar diffusion
 - (2) Dawn-to-dusk electric field
 - (3) Sporadic E
 - (4) Spread F
 - (5) Total Electron Content (TEC)

參考用