

Development of Electron Temperature and Density Probe(TeNeP) Development of Electron Temperature and Density Probe(TeNeP)

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To prepare for the near future satellite missions, we propose to develop a new instrument ? the Electron Temperature and Density Probe (TeNeP) and conduct its test and calibration in the Space Plasma Operation Chamber (SPOC, 2m in diameter and 3m in length) of the Plasma and Space Science Center, National Cheng Kung University (PSSC/NCKU). PSSC/NCKU has completed the development and test of an Electron Temperature Probe (ETP) to measure the electron temperature and an Impedance Probe (IP) to measure the electron density for deployment in the observation in the ionosphere. Because the ETP and the IP make use of the same electrodes and similar electronics, we develop a new Electron Temperature and Density Probe (TeNeP) by combining the design and function of the Electron Temperature Probe and the Impedance Probe. The TeNeP can measure the electron temperature and electron density successively in the satellite altitude below 3000 km.

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