

## Compact Instrument to measure Te and Ne for Pico /Nano satellite

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An instrument has been developed for Pico/nano satellite to measure electron density and electron temperature simultaneously. Electron temperature probe(ETP) which has been developed about 40 years ago is modified. ETP has been accommodated in Japanes 5 scientific satellites (TAIYO, HINOTORI, OZORA, KYOKKO, and AKEBONO), and 3 foreign satellites(Korea, Brazil, and Russia). ETP was also installed in more than 50 Japanese sounding rockets including Showa base, West Gemany, Brazil, and Russia. Its performance is well established. In ETP, 30KHz sine wave oscillator which has been used so far is replaced by an oscillator which generates 200Khz-7Mhz sweep frequency signal.

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