

Compact Ionospheric Probe for CubeSat-based Science Missions

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Compact Ionospheric Probe (CIP) is an all-in-one ion sensor that can measure ion concentrations, velocity, or temperature in a time-sharing way. It is also capable of in-situ measuring ionospheric plasma density irregularities up to 1,024 Hz over a wide range of spatial scales. CIP is developed by National Central University (NCU) to occupy in a 0.7U form factor for CubeSat science missions. Currently NCU has completed all CIP design reviews and started production for sounding rocket and CubeSat missions. It is expected to be placed on a hybrid sounding rocket for a preliminary flight test at the middle of 2020 and then will be installed on INSPIRESat-1 and IDEASSat CubeSats for launch at the end of 2020. In this poster, CIP specifications will be outlined and some observations done by its predecessor, Advanced Ionospheric Probe onboard FORMOSAT-5 satellite, will also be presented.

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