

# **The initial results of the Chung-Li Dynasonde for the RF environment surveillance and ionospheric observations**

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## **Abstract**

Since 2005, a NOAA (National Oceanic and Atmospheric Administration) MF/HF radar or Dynasonde was set up by the National Central University in Chung-Li (24.5°N, 121.0°E), Taiwan. The Chung-Li Dynasonde employs an interferometric array (including four receivers) in receiving ionospherically reflected echoes, and is a fully digital research ionosonde, capable of providing high precision spatial and temporal ionospheric measurements. Two types of observations are conducted by the Chung-Li Dynasonde----an active and passive sounding. The methods are utilized in observing the ionosphere and RF environment above the city of Chung-Li. The active sounding is capable of transmitting HF radio pulses in observing the ionosphere. Initial observations by this study have revealed various special events for sporadic E and spread F, along with the distribution of the foF2 in one day. These initial results will be used to confirm the surveillance of the ionosphere from other instruments, and conduct statistical comparisons between the seasons. The passive sounding receives and records the signals from RF environments. It is used to monitor the HF band in real time, and contrasted with the active results when the echo is weak.

*Keywords:* Ionosphere, Dynasonde, Ionosonde, passive radar, HF radar