

VIPIR ionospheric observations in Japan

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National Institute of Information and Communications Technology (NICT) has observed ionosphere by ionosondes more than 70 years in Japan. At present, four ionosondes at Wakkanai (Sarobetsu), Kokubunji, Yamagawa, Okinawa (Ogimi) are automatically operated and controlled from Tokyo. Major ionospheric parameters such as foF2 and foEs are scaled from the ionograms automatically on a realtime basis and scaled manually for the final values. These scaled parameters are provided through our web site (<http://wdc.nict.go.jp/IONO/>). In 2017, we replaced the 10C ionosondes with Vertical Incidence Pulsed Ionospheric Radar 2 (VIPIR2) which can separate the O- and X-modes of ionospheric echoes which have improved the availability of automatic scaling of the ionogram. Our automatic scaling method has been improved using new O- and X-modes separated ionograms. As for future plans, we try to expand observation area by oblique sounding observations with VIPIRs in Japan and neighboring countries. We have also tried to detect arrival directions of ionospheric echo by using the 8ch receiving data as a interferometry. In this presentation, we will introduce current status and future plans of ionospheric observation in NICT.

Keywords: Ionosphere, Ionosonde, Space Weather