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PEM006-P06

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Time:May 26 10:30-13:00

## Study of equatorial Spread-F with GNU Radio Beacon Receiver (GRBR) network in Asia, Pacific and Africa

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Equatorial spread F (ESF) is intense ionospheric irregularity that occurs around the geomagnetic equator. It can cause intense scintillation to satellite-ground communications, and serious error in the GPS measurements. The ESF has been a hot research topic of the equatorial/low-latitude ionosphere for long time. However, its day-to-day variability is not well understood. In the southeast Asian region, Japanese researchers developed a network of ground-based observations with the Equatorial Atmosphere Radar (EAR) of RISH, Kyoto University, the ionosonde network SEALION (SouthEast Asia Low-latitude IONospheric Network) of NICT, and optical instrument network OMTI (Optical Mesosphere Thermosphere Imager) of STEL, Nagoya University. SRI International deploys a VHF radar, an ionosonde and several satellite beacon receivers on Pacific islands. In addition to these, we are deploying the digital satellite beacon receivers named "GNU Radio Beacon Receiver (GRBR)" to fulfill observation gaps. The GRBR-TEC with C/NOFS successfully shows longitudinal large-scale wave structure that is in good relationship to the ESF occurrence. In 2010 we further expanded the network in Asia, Pacific, and African regions. In presentation, we review current status of the wide network of GRBR, and achievement from the observations.

Keywords: Equatorial Spread-F, Satellite beacon experiment, Total electron content