

SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

WEEKLY SPACE WEATHER NEWS

Periode: 14 January – 21 January 2015

SOLAR ACTIVITY

In average, Solar activity last week can be considered at eruptive level though the Sun enters its minimum phase. There were seven active regions with various activity level (NOAA 12480, 12483, 12484, ..., 12488). Ten C-class flare occurred in a week with the maximum class of C2.9, erupted at NOAA 12487 on January 21st 01:45 UT. Among the listed active regions, the largest one was NOAA 12480 with 140 millionth hemisphere area and produced four C-class flares in a week. The other eruptive regions were NOAA 12484, 12487, and 12488. The last two regions still have a chance of eruption next week. From the coronal observation, there were a number of coronal mass ejection (CME) with angular width less than 90 degrees. No halo CME occurred lately.

The activity level of the Sun might be decreasing as the existing regions will decay and go to backside while the new region with significant activity is expected to rise from the east limb more than a week. This prediction refers on STEREO imagery.

GEOMAGNETIC ACTIVITY

Geomagnetic activity during the week, from 15-21 January 2016 has encountered moderate storm that peaked on January 20th 2016 at 17:00 UT. Dst index reached -132 nT and Kp index was 6 at that time. The local response from magnetometer in Pare-pare showed a disturbance in minor storm level has occurred with K index reached 5. IMF condition during storm was varied between -20 to 20 nT, there was long southward IMF Bz. Coinciding with the minor storm, a substorm has also occurred and lasted for 44 hours. The substorm begin on January 20th 2016 at 06:00 UT and finished on January 22nd 2016 at 06:00 UT with Ae index show value < 1000 nT.

IONOSPHERIC CONDITIONS

Ionospheric conditions for this week were in medium conditions.

Generally, the minimum frequencies and the critical frequencies of Ionosphere were in normal variations, but on 19/1/2016, the increment of fmin was occurred so that SWF was in medium condition; on 21/1/2016, the decrement of foF2 was occurred for several hours so that the radio blackout was in high condition. There were Spread-F events and E-Sporadic occurrences also. The Spread-F occurred for several days with duration for several hours and might be a source of fading. For the Sporadic-E, the maximum value of the critical frequencies (foEs) were up to 7 MHz.

Based on the observations using GISTM in Bandung. it was noted that the scintillation was in quiet condition also. The quiet conditions related to the quiet levels of Loss of Lock. The peak of TEC values for this week were between 40 to 70 TECU with the maximum peak value was 63.8 TECU. Those value could affect the Error positioning parameters into the moderate disturbance conditions.

*For daily space weather information and forecast, please refer to our **Space Weather Information and Forecast Services (SWIFtS)** official website at swifts.sains.lapan.go.id or please e-mail us for request by facsimile*



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