

SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

SPACE WEATHER WEEKLY REPORT

October 30th –November 5th , 2015

SOLAR ACTIVITY

Solar activity during the last week was in active level. There was ten active region on Solar disk, i.e NOAA 12441, 12443, 12444, ..., 12451. Three of them are eruptive region with released C-class flare and stronger flare, with beta magnetic class. NOAA 12443 erupted 4 C-class flare, NOAA 12448 erupted 2 C-class flare and NOAA 12449 erupted 2 C-class flare and 1 M-class flare. The strongest flare was M3.9 at 9 November 2015 peaked at 13:12 UT. There was also detected 2 type-II radio bursts, 8 time type-III radio bursts, and 2 type IV radio burst. Type II radio bursts indicate the occurrence of halo coronal mass ejected directed to the Earth, followed strong flare M3.9 that didn't affect Earth. However, there were several CME with high speed that directed to Earth and affected geomagnetic environment on this week.

The activity of NOAA 12443 and NOAA 12445 show decreasing trend become quiet and stable, but there will be a new active region (ex. NOAA 12436, 12437 and 12445) rising from the east limb. According to the latest extreme ultra violet observation, that new active region poses a significant activities.

GEOMAGNETIC ACTIVITY

Geomagnetic activity during the week from 6th -12th November 2015 was mostly in active level. However, there was moderate storm which reached its peak on 7th November 2015. Dst index during the moderate storm depressed to -88 nT, with K index from Parepare stasiun was 5 and Kp index was 6. The storm possibly caused by CME particle that happened on 4th November 2015 with initial speed approximately 488km/sec. Moreover, there had been high speed stream from huge coronal hole at the Northern part of Solar disk which already at its geoeffective position that could speed up the CME particle. Substorm during the week was happen for several times with a quite long duration and the Ae index was around 1000-2000 nT. High electron flux during the week was on high to very high level condition, it might cause disturbance to condition and operation of satellite.

IONOSPHERE CONDITION

Ionospheric conditions was in the strong category on November 8, 10 and 11, 2015. The disturbances in the ionosphere in the form of decrement of critical frequency layer $F/F2$ ($foF2$) that impact on disruption of Radio Blackout in extreme category. Increment of f_{min} that occurred in the ionosphere in slightly chances category. While the decrement of $foF2$ exceeded the threshold of 30% of the median monthly happened this week to reach a duration of more than 8 hours at 8th, 10th and 11th November 2015. No Spread-F event was in this week. *Sporadic-E* event occur dynamically during the day and night.

Based on observations using the GISTM in Bandung noted that this week ionospheric scintillation in the quiet category except on November 9, 2015 scintillation in moderate category. Condition in ionospheric scintillation event causing loss of satellite signal lock at quiet category. The range maximum TEC value was 31 – 72 TECU. This condition causes the error position measurement in a state of medium chances at 6th, 7th, 9th November 2015, else, slightly chances.

*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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