SPACE WEATHER INFORMATION AND FORECAST SERVICES
(SWIFtS)
SPACE WEATHER WEEKLY REPORT
October 30th –November 5th , 2015

SOLAR ACTIVITY

Last week Solar activity level was active. There were eleven active regions observed on the Solar disk, which are NOAA 12436, 12437, 12440, …, 12448. Four active regions can be considered as eruptive regions that produced almost a hundred C-class and stronger flares. The most active regions are NOAA 12443 that generated 58 C-class flares and 3 M-class flares, together with NOAA 12445 that produced 28 C-class flares and 4 M-class flares in a week. The strongest one is M3.7 that erupted yesterday (4 November 2015) at 13.52 UT. Beside those flares, 3 type II radio bursts and at least 35 type III radio bursts were detected lately. Type II radio bursts indicate the occurrence of halo coronal mass ejected directed to the Earth. The latest halo CME occurred nearly in time with the M3.7 flare at NOAA 12445. A large flow of particle from that CME may reach the Earth on 7 November.

The activity of NOAA 12443 and NOAA 12445 show decreasing trend, but there will be a new active region (ex. NOAA 12434) rising from the east limb. According to the latest extreme ultra violet observation, that new active region poses a relatively high activity.

GEOMAGNETIC ACTIVITY

During last week, geomagnetic activity was on active level (K index =4), which occurred on 3rd, 4th and 5th of November. Lowest Dst index was -40nT, occurred on November 4th. While in high latitudes, maximum Kp index value reached 5, which means there was a minor storm. This is consistent with the substorm on the 3rd, 4th and 5th of November. Disturbance of geomagnetic activity in the last 3 days caused by the flow of high-speed plasma stream and Coronal Mass Ejection (CME) occured on 2nd of November on the southwestern part of the sun, indicated by an increase in speed and density of the solar wind. While CME on November 4th has slower speed thus does not trigger any disturbances yet.

IONOSPHERE CONDITION

Ionospheric conditions in the period 30 October to 5 November 2015 wasincrease from quiet to the strong category. Disturbance in the ionosphere caused by the events of flare C class and M class which affected in increament of the minimum frequency (fmin) in the morning and afternoon, affectedto Short Wave fadeout as well as a decrease in the critical frequency layer F/F2 (foF2) that impact on disruption of Radio Blackout. Increament of fmin that occured in the ionosphere due to the relatively low flare events. While the decrementof *foF2* exceeded the threshold of 30% of the median monthly happened this week to reach a duration of more than 6 hours at 4 to 5 November 2015 at 23:00 am until 05:30 pm. Spread-F event was recorded only once occurred on for 75 minutes at 01:00 am on November 1, 2015. Sporadic-E event occur dynamically during the day and night. Based on observations using the GISTM in Bandung noted that in the category of extreme strong scintillation occured with duration up to 2 hours 30 minutes on 1 November 2015 and the strong category on October 31 2015.Extreme condition in ionospheric scintillation event causing loss of satellite signal lock at high category. In addition to the day ionospheric scintillation conditions were in the quiet category. While the maximum TEC value worth 50.19 until 69.13. This condition causes the error position measurement in a state of moderate.

*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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