**SPACE WEATHER INFORMATION AND FORECAST SERVICES**
**(SWIFtS)**
**WEEKLY SPACE WEATHER NEWS**
Periode: 25 November – 1 December 2016

## SOLAR ACTIVITY

In the last few weeks, Sun was in a state of quiet, but there was a drastic increase in solar activity since the emergence of the active region NOAA 2615 on November 30, 2016. Within a few days, NOAA 2615 which has an area of about 50 units have been produced 8 C-class flares and 2 M-class flare. The most powerful flare was M1.2 class, occurred on November 29 at 23:38 UT. No CME as well as type II radio bursts were observed and associated with these flares. In addition to NOAA in 2615, there were three other active regions (NOAA 2612, 2613, 2614) which were not eruptive. Based on the current observations, there is no indication of the emergence of a new eruptive area from the far side of the sun. NOAA 2615 is still the potential to generate some C-class flares, although activity tends to decrease. Thus, the solar activity next week is expected to remain at the level of eruptive.

## GEOMAGNETIC ACTIVITY

Geomagnetic activities during November 25$^{th}$ – December 1$^{st}$, 2016 were in minor storm condition because of a high-speed solar wind stream from coronal hole. Local K index maximum from Kototabang Station reached 5 at second 3-hourly on 25 November 2016. Dst index minimum was -39 nT at 06UT, with Kp index maximum reached 4. During active condition, as for solar wind condition, the speed reached 700 km/s. The geomagnet disturbance has been fully recovered the day after. The geomagnetic disturbance caused the electron flux have decreased to a low level at the time of the storm and a few days after the geomagnetic disturbance occurs, the flux of electrons experiencing a rise to very high levels. Substorm that occurred during the storm had intensity less than 1500 nT several times with long duration.

## IONOSPHERIC CONDITIONS

In this week, the ionospheric condition were between quiet to strong level disturbance.
The disturbances occurred on November 26 to 30, due to the depression of *F/F2* critical frequencies (*foF/F2*) more than 30% from it's median values. The depression occurred in post midnight until early morning with duration more than 6 hours. The depression of *foF/F2* could disturbing the radiowave propagation over the ionosphere which known as the Radio Blackout. There was no increment of minimum frequencies (*fmin*) which is a source of *Shortwave Fadeout* (*SWF*) disturbance. However there was occurrence of *Spread-F* in several days that could be a source of Fading disturbances. The Sporadic-E also reported occurred in several days during day and nighttime. The occurances of Sporadic-E could be a positive impact especially when the depression of *foF/F2* occurred. Based on the observations using GISTM over Biak and Bandung, the *scintillation* (S4) condition for this week were in quiet. These conditions of *scintillation* could lead quiet levels of *loss of lock*. The value of W index in this week were -1. Those values could affecting to the error positioning parameters into the normal scale of 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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