

# SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

## WEEKLY SPACE WEATHER NEWS

Periode: 11 – 17 November 2016

### SOLAR ACTIVITY

Over the past week, solar activity is at the quiet level. No C class flares and solar radio burst events detected. Only several B-class flares produced by NOAA 2610 and one type III solar radio bursts detected. Within a week, there were only four active regions appeared on the solar disk, which NOAA 2607, 2608, 2609, and 2610. Several CME events with a narrow angular angle and hurled to the west are detected and most likely cause by filament eruption. The observations of high-energy protons in the past week also at the quiet level because of very low solar activity. It is predicted that solar activity during the next week will still be at quiet levels.

### GEOMAGNETIC ACTIVITY

Geomagnetic activities during November 11<sup>st</sup> – November 17<sup>th</sup>, 2016 was in active condition because of a stream of fast-moving solar wind from coronal hole. Local K index maximum from Kototabang Station reached 4 at first 3-hourly on 14 November 2016. Dst index minimum was -49 nT with Kp index maximum reached 4. During active condition, as for solar wind condition, the speed reached 800 km/s. The geomagnet disturbance didn't take long duration, and has been fully recovered the day after. The geomagnet disturbance prompted increment of electron flux until it reached very high level and is still take up to three days after the disturbance.

### IONOSPHERIC CONDITIONS

Ionosphere conditions in this week were in strong disturbances level.

The strong level disturbances in the ionosphere was occurred due to the depression of critical frequencies of  $F/F2$  layers ( $foF2$ ) for every days in this week. The  $foF2$  depressions were impacted to the radiowave propagation over the ionosphere which known as the Radio Blackout. Although the  $foF2$  experienced depression, the minimum frequencies ( $fmin$ ) of the ionosphere in this week were in normal conditions. There was no increment of  $fmin$  that could be a source of disturbance in the HF radio communication which known as Shortwave Fadeout (SWF). The occurrences of *Spread-F* was noted appeared in one day which is in 16th November 2016. This occurrences of *Spread-F* could be a source of *Fading* disturbances for HF Radio communication. Beside the *Spread-F*, the *E-Sporadic* reported always occurred every days in this week and with values of the critical frequency ( $foEs$ ) can reach above the  $foF2$  values. Based on the observations using GISTM over Biak, the scintillation ( $s4$ ) condition for this week were quiet level. These conditions of scintillation could lead to the quiet until medium levels of *loss of lock*. Similar to the  $s4$  conditions, the error positioning conditions were in quiet levels conditions also with index W up to 1.

*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](http://swifts.sains.lapan.go.id) or please e-mail us for request by facsimile*



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