

# SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

## WEEKLY SPACE WEATHER NEWS

Periode: August, 5<sup>th</sup> – August, 11<sup>th</sup> 2016

### SOLAR ACTIVITY

In the past week, solar activity is at the active level with the occurrence of M1.3 flare on August 7th, 2016, peaked at 14:44 UT from the west limb of the solar disk. There are 6 active regions with the spot in the past week. Tens of B and C-class flares occurred from the active region NOAA 2571, NOAA 2572 and NOAA 2574. Several type III solar radio bursts also detected in the past week. Also recorded by CACTUS, four times coronal mass ejection and hurled to the west direction. For the next week, solar activity is expected at the level of eruptive with the small chance of reaching active level

### GEOMAGNETIC ACTIVITY

Geomagnetic activity along the week from August 5<sup>th</sup>, 2016 to August 11<sup>th</sup>, 2016 in general was on quiet level, an active condition occurred once, on 5 August 2016. Dst index minimum on that day was -33 nT and the maximum Kp index reached 4. For Indonesian region, geomagnetic disturbance being monitored by K index from Agam station which was 3 at that time means quiet condition, while K index from Sumedang station was 4 means active condition. Along the week there were quite large geoeffective coronal holes, so high speed stream plasma from the coronal holes affected geomagnetic condition into unsteady level. Substorm with highest intensity less than 1500 nT occurred several times. First was on 5 August 2016 which lasted for 14 hours. Second was on 6 August 2016 taken place for 7 hours and the last was on 10 August 2016 which was started on 9 August 2016 and finished after 17.5 hours.

### IONOSPHERIC CONDITIONS

In this week, the ionosphere dominantly in a quiet conditions.

The disturbances in the ionosphere only occurred for one day (08/08/2016) due to the depression of critical frequencies of F/F2 layers ( $f_oF_2$ ) for more than 6 hours. The  $f_oF_2$  depressions impacting to the radiowave propagation over the ionosphere which known as the Radio Blackout. Although the  $f_oF_2$  experienced one day depression, the minimum frequencies ( $f_{min}$ ) of the ionosphere in this week were in normal conditions. There was no increment of  $f_{min}$  that could be a source of disturbance in the HF radio communication which known as Shortwave Fadeout (SWF). The occurrences of *Spread-F* were noted appear in several days. This occurrences of *Spread-F* could be a source of Fading disturbances for HF Radio communication. Beside the *Spread-F*, the *E-Sporadic* also reported always occurred during all days with values of the critical frequency ( $f_oE_s$ ) could reach above the  $f_oF_2$  values. This occurrences of E-Sporadic could be a positive impact especially when the depression of  $f_oF_2$  occurred. Based on the observations using GISTM over Biak, the scintillation ( $S_4$ ) condition for this week were in quiet level. These conditions of scintillation could lead to the quiet levels of loss of lock. The maximum average value of W index in this week were 2. Those values indicated that the error positioning parameters could be in to the slight 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](http://swifts.sains.lapan.go.id) or please e-mail us for request by facsimile*



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