

**SPACE WEATHER INFORMATION AND FORECAST SERVICES
(SWIFtS)**

WEEKLY SPACE WEATHER NEWS

Periode: October 14th –20th , 2016

SOLAR ACTIVITY

Solar activity this week can be considered at eruptive level because of three C-class flare eruptions occurred earlier in this week. The strongest flare (C4.2) erupted on 17 October at 00:37 UT. There were three active regions seen on the Solar disk, they are NOAA 12600, 12602, and 12603. No significant activity from those regions, especially when NOAA 12600 set on the west side of the disk. Besides, there was neither intense coronal mass ejection nor the one with high velocity.

Solar activity next week is predicted to be quiet since there is no indication of emerging eruptive region.

GEOMAGNETIC ACTIVITY

Geomagnetic activities during October 14th – 20th was on moderate storm level i.e at October 14th. The geomagnetic storm was triggered by CME on previous days. maximum local K index has reached 6, minimum Dst index has reached -100 nT, This condition was in accordance with geomagnetic condition on higher latitude, indicated by maximum Kp index of 6 and AE index of 2000 nT. Maximum solar wind speed when the storm hit was 800 km/s, with density of 60/cm³. 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 ongoing.

IONOSPHERIC CONDITIONS

Ionosphere conditions in this week were in strong to quiet disturbances level. The strong level disturbances in the ionosphere was occurred at 14th -17th October due to the depression of critical frequencies of F/F2 layers (*foF2*). 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 14th October 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*) below the *foF2* values. Based on the observations using GISTM over Biak, the scintillation (*S4*) condition for this week were quiet level. In this week the error positioning conditions were in medium to quiet levels 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*



Space Science Center
Deputy of Space and Atmospheric Science
Indonesian National Institute of Aeronautics and Space (LAPAN)
Jl. Dr. Djundjunaan 133 Bandung 40173
Ph../Fax. (022) 6012602/6014998
E-mail: swifts@lapan.go.id