

SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

WEEKLY SPACE WEATHER SUMMARY

Periode: 6 – 12 May 2016

SOLAR ACTIVITY

In general, last week solar activity can be considered as quiet or less eruptive. There was only one C class flare occurred in active region NOAA 2541 on May 7th at 17:13 UT. The peak intensity of this flare was just C1.9 while the duration is approximately 20 minutes. Along this week, active regions observed in solar hemisphere are NOAA 2536, 2539, 2541, 2542, 2543, 2544, and 2545. The largest region was NOAA 2545 whose area reached 170 millionth hemisphere some days ago. A couple of type III radio bursts occurred lately, some of them were related to the flare events. From the coronal observation, several mass ejection were detected by CACTUS system from SOHO/LASCO C-2 observation, but none of them can be considered as halo CME. For the next week, solar activity is predicted to be less eruptive, as the available (and expected) active regions possess a considerably low complexity and flaring probability. Proton flux was normal as it categorised in quiet level.

GEOMAGNETIC ACTIVITY

Geomagnetic activities during this week, from May 6th – 12th 2016, encountered one minor storm event. At the beginning of the week 6 – 7 May 2016, geomagnetic activity was on quiet level. Then on 8 May 2016 a minor geomagnetic storm taken place with onset on 03:00 UT, it was a gradual storm. The storm peaked at the same day on 09:00 UT which depressed geomagnetic field until Dst index reached -92 nT and Kp index was 6 means moderate storm level at high latitude region. For Indonesia region the K index from Sumedang station was 5 means the geomagnetic disturbance was at minor storm level. The storm might be caused by fast stream speed plasma from geoeffective coronal hole that was on solar equator. Recovery phase of the storm took 3 days to return the geomagnetic field to its normal value, so at the end of the weekend we have a quiet level of geomagnetic condition. Corresponded to the storm there was substorm occurrence with Ae index more than 2000 nT and lasted until the storm finished.

IONOSPHERIC CONDITIONS

In this week, ionospheric conditions were quiet to severe level disturbance.

Quiet conditions occurred at 6th May. Minor level occurred at 7th 2016. Strong disturbance occurred at 11th May 2016. Severe disturbance occurred at 8th, 9th, 10th, and 12th May 2016. The disturbances occurred due to the depression of F/F_2 critical frequencies (f_oF_2) more than 30% from its median values with duration from several minutes to more than 6 hours at pre-midnight and post-midnight. Those conditions impacting the HF radio communication which defined as *Radio Blackout*. There was no increment of minimum frequencies (f_{min}) which is a source of *Shortwave Fadeout* (SWF) disturbance. However there was occurrence of *Spread-F* which is a source of *Fading* occurred post-midnight at 10th and 11th May 2016 with duration up to 3 hours. Based on the observations using GISTM over Biak, the *scintillation* (S4) condition for this week were in quiet. These conditions of *scintillation* could lead quiet levels of *loss of lock*. The maximum values of *Total Electron Content* (TEC) for this week were between 43 to 56 TECU. The value of W index in this week were -2 and 2. Those values could affect to the error positioning parameters into the slightly 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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