

# SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

## WEEKLY SPACE WEATHER NEWS

Periode: 22 – 28 April 2016

### SOLAR ACTIVITY

In general, last week solar activities were at the quiet to eruptive level. Four times C class flare have just occurred recently from NOAA 2535 which still located in east hemisphere. The strongest flare was C 1.9 peaking at 12:54 UT on 28 April 2016. Along this week, active regions observed in solar hemisphere are NOAA 2532, 2533, 2534, 2535, 2536, 2537, and 2538. Other than 2535, those simple regions with alpha and beta configuration only erupted flare no more than B class. Among the regions, NOAA 2533 have the largest area of about 100 millionth hemisphere. Tens of type three radio bursts occurred lately, some of them were related to B and C class flare events. From the coronal observation, several mass ejection were detected by CACTUS system from SOHO/LASCO C-2 observation, but the most significant and partial halo occurred only twice on 24 and 28 April 2016. Meanwhile, the most noteworthy filament eruption at this week was from east region around 12:00 UT on 28 April 2016. Solar activity is predicted to be eruptive, because some potential regions erupting C class flare have been moving to the west. Proton flux was normal as it categorised in quiet level.

### GEOMAGNETIC ACTIVITY

Geomagnetic activities during this week, from April 22<sup>nd</sup> – 28<sup>th</sup> 2016, were in quiet levels. Minimum Dst index of -14 nT have occurred at April 27<sup>th</sup> 2016. While in higher latitude, at April 22<sup>nd</sup>, 23<sup>rd</sup> and 24<sup>th</sup> were on active status (Kp index = 4), which triggered fast stream by geoeffective coronal holes. Partial halo CME has occurred at April 24<sup>th</sup> 2016 (was geoeffective and potentially would reach Earth in 5-6 days) and April 28<sup>th</sup> 2016 (not geoeffective). At April 23<sup>rd</sup> 2016 a substorm have occurred with intensity >1000nT, it has taken about 4 hours of duration and has triggered geomagnetic disturbance in high and middle latitude, but did not significantly affect geomagnetic activity around low latitude and equator.

### IONOSPHERIC CONDITIONS

In this week, ionospheric condition were quiet to strong level disturbance.

Quiet conditions occurred at 26th and 28th April. Minor level occurred at 25th 2016. Strong disturbance occurred at 22nd and 27th April 2016. The disturbances occurred due to the depression of F/F2 critical frequencies (foF2) more than 30% from its median values with duration from several minutes to more than 5 hours at midnight. Those conditions impacting the HF radio communication which defined as Radio Blackout. There was no increment of minimum frequencies (fmin) which is a source of Shortwave Fadeout (SWF) disturbance. Also there was no occurrence of Spread-F which is a source of Fading occurred. 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 39 to 50 TECU. However those values could affect to the error positioning parameters into the medium 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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