\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Product: Daily Forecast of Geomagnetic Activity  
Issued: 2024 September 15 08:00UTC  
Prepared by the Athens Space Weather Forecasting Center  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
  
**I. Solar activity**  
*--Current Status*  
Solar Flux (10.7cm) measured on 14.09.2024 at 23:00 UTC was 172 sfu.  
The background X-Ray flux is at the class C1.6 level.  
Two M-class and one X-class solar flares were produced on September 14.   
AR3825 erupted on September 14 at 15:29 UT peak time producing a X4.5 class solar flare and a radio blackout of category R3.  
No obviously Earth directed CMEs were observed in available LASCO imagery on September 11-12.  
A coronal hole (CH1241) at southern hemisphere rotated into an Earth facing position on September 12-13.  
---CME arrival forecast  
A CME was observed on September 13 at 10:12 UT. This CME could reach Earth on September 16 between at 01:37 UT and 06:15 UT according to EAM predictions.  
Another CME was observed on September 14 at 15:36 UT, associated with the powerful X4.5-class solar flare.This CME is expected to reach Earth on September 16 at 15:50 UT according to EAM predictions.  
  
**II. Solar Energetic Particle Events**  
Protons and electrons fluxes are quiet.  
  
**III. Interplanetary and Geomagnetic conditions**  
The solar wind speed measured by ACE satellite reached the max value 533 Km/s on September 15 at 03:10 UT during the last 24 hours.  
The solar wind speed from STEREO A was detected 400 Km/s during the last 24 hours.  
The vertical component of IMF Bz reached the max value -8 nT on September 14 at 10:30 UT during the last 24 hours.  
The geomagnetic field was at quiet to active levels during the last 24 hours.  
The Kp index now is at active levels with Kp=4.  
  
**IV. 3-day Geomagnetic Activity Forecast**  
The geomagnetic field is expected to be at quiet to active levels on September 15, at unsettled to strong storm (G3) with a chance of severe storm (G4) levels on September 16 due to the effects of CMEs from September 13 and 14 and the recurrent coronal hole high speed stream and at quiet to moderate storm (G2) levels on September 17.

|  |  |  |
| --- | --- | --- |
| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 15.09.2024 | 20 | Quiet to Active |
| 16.09.2024 | 65 | Unsettled to Strong storm (G3) |
| 17.09.2024 | 25 | Quiet to Moderate storm (G2) |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
Athens Space Weather Forecasting Center  
Physics Department, National & Kapodistrian University of Athens  
Athens Neutron Monitor Station A.NE.MO.S  
Tel.: +30 210 727 6901  
email: spaceweather@phys.uoa.gr  
URL: http://spaceweather.phys.uoa.gr  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*