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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 October 10 08:27UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 09.10.2024 at 23:00 UTC was 220 sfu.
The background X-Ray flux is at the class C4.5 level.
Two X-class flares and two M-class solar flares were produced on October 09 and the biggest event was an X1.8 flare.
AR3848 erupted on October 09 at 01:56 UT peak time producing a X1.8 class solar flare and a radio blackout of category R3.
No obviously Earth directed CMEs were observed in available LASCO imagery on October 05-06.
---CME arrival forecast
A CME was observed on October 07 at 20:48 UT. This CME is expected to reach Earth between on October 10 at 23:32 UT and on October 11 at 12:08 UT according to EAM predictions.
Another CME was observed on October 09 at 02:12 UT, associated with the X1.8 class flare. This CME could reach Earth between on October 10 at 10:50 UT and on October 11 at 09:06 UT according to EAM predictions.

**II. Solar Energetic Particle Events**
GOES Proton Flux for particles with energies above 10 MeV exceed the SWPC 10 MeV warning threshold on October 09 at 05:00. A solar radiation storm of level S3 was also observed.

**III. Interplanetary and Geomagnetic conditions**
The solar wind speed measured by ACE satellite reached the max value 463 Km/s on October 09 at 13:10 UT during the last 24 hours.
The solar wind speed from STEREO A was detected 600 Km/s during the last 24 hours.
The vertical component of IMF Bz reached the max value -6 nT on October 09 at 10:05 UT during the last 24 hours.
The geomagnetic field was at unsettled to active levels during the last 24 hours.
The Kp index now is at unsettled levels with Kp=3.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to severe storm (G4) levels on October 10, at active to severe storm (G4) levels on October 11 due to the effect of CMEs and at quiet to minor storm (G1) levels on October 12.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 10.10.2024 | 100 | Quiet to Severe Storm (G4) |
| 11.10.2024 | 120 | Active to Severe Storm (G4) |
| 12.10.2024 | 30 | Quiet to Minor storm (G1) |

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