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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 May 11 07:47UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 10.05.2024 at 23:00 UTC was 223 sfu.
The background X-Ray flux is at the class C7.6 level.
Several M-class and 1 X-class solar flares were produced on May 10.
AR3664 erupted on May 10 at 06:54 UT peak time producing a X3.9 class solar flare and a radioblackout of category R3.
No obviously Earth directed CMEs were observed in available LASCO imagery on May 06-07.
A coronal hole (CH1221) at northern hemisphere was Earth facing on May 08-09.
---CME arrival forecast
A full halo CME was observed on May 08 at 05:36 UT. This CME was expected to reach Earth on May 10 between 14:59 UT and 23:52 UT according to EAM predictions.
Another full hallo CME was observed on May 08 at 12:24 UT from AR3664 following a long-duration M8.6 class solar flare. This CME could reach Earth on May 11 between 02:35 UT and 08:11 UT according to EAM predictions.
A halo CME was observed on May 09 at 09:24 UT after the X2.3 class solar flare. This CME could reach Earth between on May 10 at 23:16 UT and on May 11 at 19:45 UT according to EAM predictions.
The X3.9 class solar flare associated with another CME which was observed on May 10 at 07:12 UT. This CME is expected to reach Earth on May 12 between at 08:50 UT and at 22:46 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 May 10 at 14:10 UT. A solar radiation storm reached the level of S2.

**III. Interplanetary and Geomagnetic conditions**
The solar wind speed measured by ACE satellite reached the max value 785 Km/s on May 10 at 23:55 UT during the last 24 hours.
The vertical component of IMF Bz reached the max value -46 nT on May 10 at 17:35 UT during the last 24 hours.
The geomagnetic field was at quiet to extreme storm levels (G5) during the last 24 hours.
The Kp index now is at severe storm levels (G4) with Kp=8.
The Dst index reached the value -412 nT on May 11 at 03:00 UT during the last 24 hours.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at active to extreme storm (G5) levels on May 11, at unsettled to moderate storm (G2) levels on May 12 due to effects of multiple CMEs observed on May 08-10 and at unsettled to active levels on May 13.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 11.05.2024 | 180 | Active to Extreme storm (G5) |
| 12.05.2024 | 50 | Unsettled to Moderate storm (G2) |
| 13.05.2024 | 18 | Unsettled to Active |

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