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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 October 04 07:18UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 03.10.2024 at 23:00 UTC was 312 sfu.
The background X-Ray flux is at the class C7.1 level.
One X-class and seven M-class solar flares were produced on October 03.
AR3842 erupted on October 03 at 12:18 UT peak time producing a X9.0 class solar flare and a radio blackout of category R3.
No obviously Earth directed CMEs were observed in available LASCO imagery on September 29-30.
A small equatorial coronal hole (CH1245) will rotate into an Earth facing position on October 04-05.
---CME arrival forecast
A CME was observed on October 01 at 23:09 UT, associated with an X7.1-class flare from AR3842. This CME is expected to reach Earth between on October 04 at 22:35 UT and on October 05 at 02:41 UT according to EAM predictions.
Another CME was observed on October 03 at 12:48 UT. The source was the X9.0 flare. This CME is expected to reach Earth between on October 05 at 21:50 UT and on October 06 at 06:40 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 396 Km/s on October 04 at 00:40 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 -6 nT on October 03 at 11:20 UT during the last 24 hours.
The geomagnetic field was at quiet to unsettled levels during the last 24 hours.
The Kp index now is at quiet levels with Kp=2.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to strong storm (G3) levels on October 04 and at active to severe storm (G4) levels on October 05-06 due to the effects of CMEs on October 01 and 03.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 04.10.2024 | 51 | Quiet to Strong (G3) |
| 05.10.2024 | 94 | Active to Severe storm (G4) |
| 06.10.2024 | 70 | Active to Severe storm (G4) |

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