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Product: Daily Forecast of Geomagnetic Activity
Issued: 2024 September 12 07:56UTC
Prepared by the Athens Space Weather Forecasting Center
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**I. Solar activity**
*--Current Status*
Solar Flux (10.7cm) measured on 11.09.2024 at 23:00 UTC was 207 sfu.
The background X-Ray flux is at the class C6.4 level.
Four M-class solar flares were produced on September 11 and the biggest was the M2.0. flare.
AR3814 erupted on September 11 at 17:52 UT peak time producing a M2.0 class solar flare and a radio blackout of category R1.
No obviously Earth directed CMEs were observed in available LASCO imagery on September 05-06.
A coronal hole (CH1241) at southern hemisphere will rotate into an Earth facing position on September 12-13.
---CME arrival forecast
A CME was observed on September 08 at 01:36 UT. This CME was expecting to reach Earth on September 11 between 00:41 UT and 03:19 UT according to EAM predictions.
Another CME was observed on September 10 at 00:23 UT associated with a long duration M1.2 class flare from AR3814. This CME is expected to reach Earth on September 12 between at 16:45 UT and 20:45 UT.

**II. Solar Energetic Particle Events**
GOES Proton Flux for particles with energies above 10 MeV exceed the SWPC 10 MeV warning threshold on September 09 at 08:50 due to the effects of the CME. A solar radiation storm of level S1 was also observed.

**III. Interplanetary and Geomagnetic conditions**
The solar wind speed measured by ACE satellite reached the max value 444 Km/s on September 12 at 05:05 UT during the last 24 hours.
The solar wind speed from STEREO A was detected 500 Km/s during the last 24 hours.
The vertical component of IMF Bz reached the max value -16 nT on September 12 at 06:10 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 active levels with Kp=4.

**IV. 3-day Geomagnetic Activity Forecast**
The geomagnetic field is expected to be at quiet to minor storm (G1) levels on September 12-13 due to the CME observed on September 10 and at quiet to active levels on September 14.

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| **Date** | **Ap index forecast** | **Geomagnetic Activity level** |
| 12.09.2024 | 25 | Quiet to Minor storm (G1) |
| 13.09.2024 | 25 | Quiet to Minor storm (G1) |
| 14.09.2024 | 15 | Quiet to Active |

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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
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