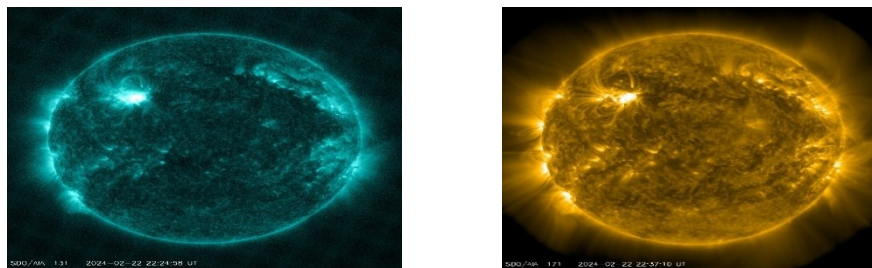
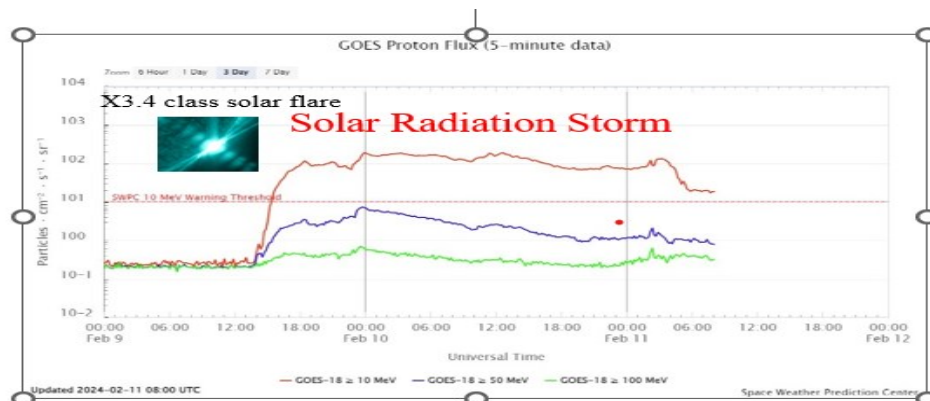


February has been a less active month than January in terms of solar activity. A number of 185 coronal mass ejections (CMEs) has been spotted, 19 CMEs with angular width  $90^\circ < \alpha < 180^\circ$ , one CME with angular width  $180^\circ < \alpha < 270^\circ$  and two HALO CME recorded in this month, resulting into distinct modulation of the galactic cosmic rays (GCRs) (source: <http://sidc.oma.be/cactus/catalog.php>). Nevertheless, February was a very productive month in the sense of solar flares (SFs). A number of 41 M-class and 5 X-class solar flares were spotted this month (<https://solarmonitor.org>), the most energetic one being a X6.4 flare on 22.02.2024 at 22:39 UT (peak time) from the AR3590 (Figure 1). It is remarkable that between on 21.02.2024 - 22.02.2024 AR3590 produced 3 X-flares and 1 M-class flares. Also GOES Proton Flux for particles with energies above 10 MeV exceed the SWPC 10 MeV warning threshold for solar radiation storm of level S2 two times this month, on February 09 and 12 as shown in Figure 2.



**Figure 1:** The X6.4 solar flare of 22/02/2024 at 22:39 UT peak time (from <https://sdo.gsfc.nasa.gov/data/aiahmi/>)



**Figure 2:** Alert signal issued by Space Weather Prediction Center (SWPC) of NOAA. (<http://www.swpc.noaa.gov/products/goes-proton-flux>)

February was not an active month in the sense of geomagnetic activity ([http://www-app3.gfz-potsdam.de/kp\\_index/qlyyymm.html](http://www-app3.gfz-potsdam.de/kp_index/qlyyymm.html)) as the Kp index values not reached storm levels. The results of these events during this month were spotted on the cosmic ray intensity, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV).