

## Newsletter Cosmic Rays / October 2020

October 2020 has been a more active month in the sense of solar activity. A number of 19 CMEs has been spotted (source http://sidc.oma.be/cactus/catalog.php) with angular width  $w < 90^{\circ}$ . These CMEs together with the high-speed streams of solar wind for this month resulted to a distinct modulation of the galactic cosmic rays. October was also a more active month in the sense of proton flux levels of solar flares (SFs). 15 solar flares with magnitude > C1.0 were recorded during this period. The most energetic solar flare was a C4.3 noticed on 29/10/2020, 11:50 UT peak time from AR2779 with coordinates S17W38 (Fig. 1).

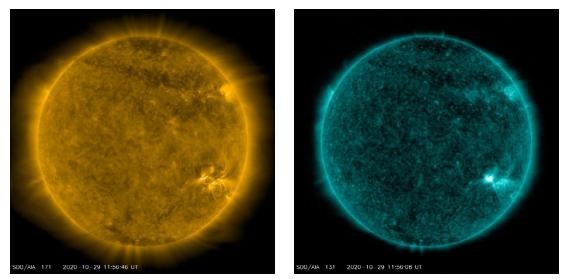


Figure 1: The C4.3 solar flare of 29/10/2020 at 11:50 UT peak time (from https://sdo.gsfc.nasa.gov/data/aiahmi/)

October was more active month in the sense of geomagnetic activity in contrary to previous months. The interaction of high-speed solar wind streams from coronal holes on October 1, 5, 23-26 and 28-29 triggered minor geomagnetic disturbances. These disturbances during this month were spotted on the cosmic ray intensity as Forbush effects, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV) with amplitudes varied from 1% up to almost 3%.

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