

## Newsletter Cosmic Rays / April 2017

April 2017 has been an active month in the sense of geomagnetic activity. A number of 58 CMEs has been spotted, in particular 1 CME with angular width 90° < da < 180° and 1 CME with angular width da > 270° resulting into distinct modulation of the galactic cosmic rays (source: http://sidc.oma.be/cactus/catalog.php). April was an active month in the sense of proton flux levels of solar flares (SFs). A number of 40 SFs were spotted, the most energetic one being a M5.8 on 03/04/2017 at 14:19 UT (start time) from AR2644 with coordinates N16W78 (Fig. 1).

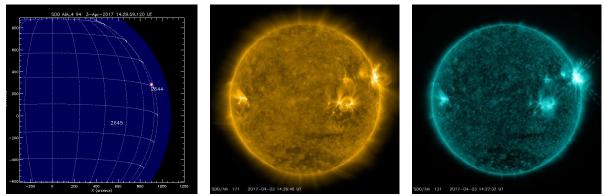
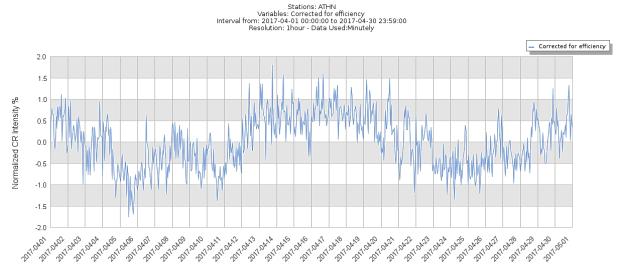
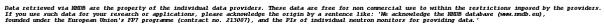


Figure 1: The M5.8 SF of 03/04/2017 at 14:29 UT peak time (from http://www.lmsal.com/solarsoft and http://sdo.gsfc.nasa.gov/data/aiahmi/)

The interaction of CMEs and high speed streams of solar wind from large coronal holes with Earth's magnetosphere on April 14, 21 and April 2-4, 19-20, 22-24 respectively, triggered geomagnetic storms of G1 and G2 levels. The results of these events were spotted on the cosmic ray intensity as Forbush decreases during this month, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV) with amplitudes varied from 1% up to almost 3% (Fig. 2).





**Figure 2:** Hourly corrected for pressure and efficiency values of the cosmic ray intensity recorded by Athens Neutron Monitor Station from 01-30/04/2017 (From the multi station data service of Athens NM Station).

**Contact:** Prof. H. Mavromichalaki Email: <u>emavromi@phys.uoa.gr</u> http://cosray.phys.uoa.gr