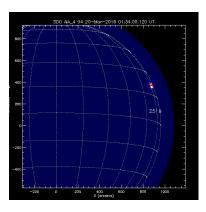


Newsletter Cosmic Rays / March 2016

March 2016 has been the quietest month in the sense of solar activity up to now. A number of 87 CMEs have been spotted, with only 5 CMEs with angular width 90° < da < 180° resulting into distinct modulation of the galactic cosmic rays (source: http://sidc.oma.be/cactus/catalog.php). March was also a very quiet month in the production rate of solar flares (SFs). A number of only 9 C-class solar flares were spotted, the most energetic one being an C3.7 on 20/03/2016 at 01:22UT (start time) from the AR 12521, N19W76 (Fig. 1).



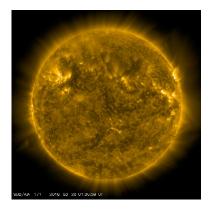


Figure 1: The C3.7 solar flare of 20/03/2016 at 01:33 peak time (from http://www.lmsal.com/solarsoft and http://sdo.gsfc.nasa.gov/data/aiahmi/)

The interaction of high speed solar wind streams with Earth's magnetosphere had as a result three geomagnetic storms on March 6, 14 and 17 (G2 and two G1 respectively). The arrival of a CME at March 11 triggered a G2 geomagnetic storm also. The results of these events were spotted on the cosmic ray intensity as a series of Forbush decreases during this month, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV) with amplitudes varied from 2.5% to 3%. A series of large amplitude wave trains of cosmic ray intensity was also appeared from March 23 till the end of the month (Fig. 2) that are a 27-day variation of the corresponding one of the late days of February.

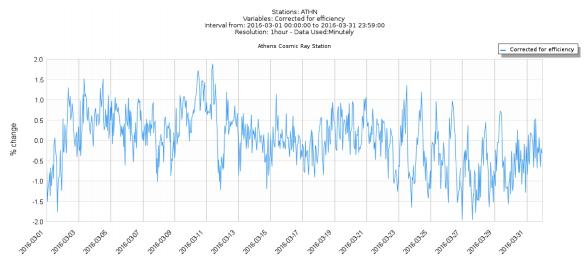


Figure 2: Hourly corrected for pressure and efficiency values of the cosmic ray intensity recorded at Athens Neutron Monitor Station from 01-31/03/2016 (From multi station service of Athens NM Station).

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