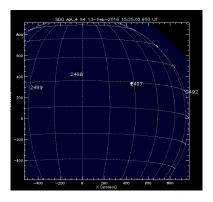


Newsletter Cosmic Rays / February 2016

February 2016 has been a less active month in the sense of solar activity. A number of 79 CMEs have been spotted, with only 6 CMEs with angular width 90° < da < 180° resulting into distinct modulation of the galactic cosmic rays (source: http://sidc.oma.be/cactus/catalog.php). February was also a very quiet month in the production rate of solar flares (SFs). A number of only 26 solar flares were spotted with 22 C- and 4 M-class SFs, the most energetic one being an M1.8 on 13/02/2016 at 15:16UT (start time) from the AR 12497, N14W28 (Fig. 1).



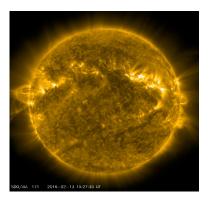


Figure 1: The M1.8 solar flare of 13/02/2016 at 15:24 peak time (from http://www.lmsal.com/solarsoft and http://sdo.gsfc.nasa.gov/data/aiahmi/)

The interaction of high speed solar wind streams with Earth's magnetosphere had as a result three geomagnetic storms on February 8, 12 and 16 (two G1 and one G2). The results of similar events with also high speed solar wind streams were spotted on the cosmic ray intensity as a series of four Forbush decreases during this month, on February 3, February 8, February 12 and February 18, recorded at Athens Neutron Monitor Station (cut-off rigidity 8.53 GV) with amplitudes varied from 2.5% to 3.5%. A series of large amplitude wave trains of cosmic ray intensity was also appeared from February 25 till the end of the month (Fig. 2).

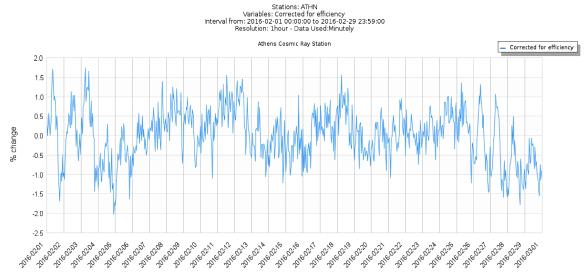


Figure 2: Hourly corrected for pressure and efficiency values of the cosmic ray intensity recorded at Athens Neutron Monitor Station from 01-29/02/2016 (From multi station service of Athens NM Station).

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