Newsletter Cosmic Rays / April 2014

April has been a relatively quiet month in terms of solar activity. A number of 173 coronal mass ejections have been spotted, 12 coronal mass ejections (CMEs) with angular width 90° < da < 180° and 2 with da > 180° recorded in this month, resulting into distinct modulation of the galactic cosmic rays (GCRs) (source: http://sidc.oma.be/cactus/catalog.php). The Sun has not been really productive in the sense of solar flares either. A great number of 228 C-, M- and X-class solar flares spotted with three M-class and one X-class solar flare. The most energetic one being an X1.3 on 25.04.2014 at 00:17 UT from a complex AR2035/AR2046, located at S14W89 (Figure 1):

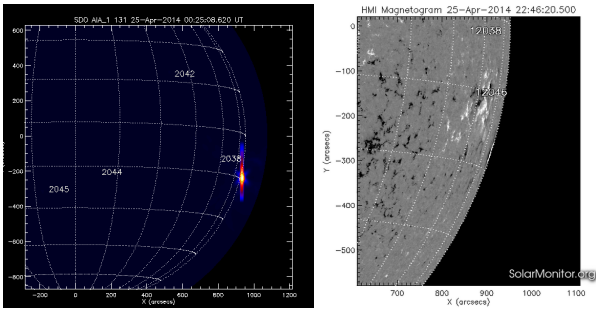

Figure 1: The X1.3 solar flare of 25.04.2014 (from solarmonitor.org)

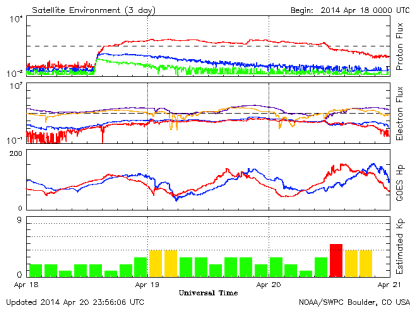

Figure 2: The solar proton event and the resulting geomagnetic storm of April 20, 2014.

A solar proton event was also recorded by GOES (Fig. 2) satellite resulting from an M7-class solar flare located at S20W41 following by a partial HALO CME.

On April 6, as well as on April 18, two great Forbush decreases with amplitude 3% and 5% respectively, were recorded by the Athens neutron monitor with a slow recovery (Fig. 3).

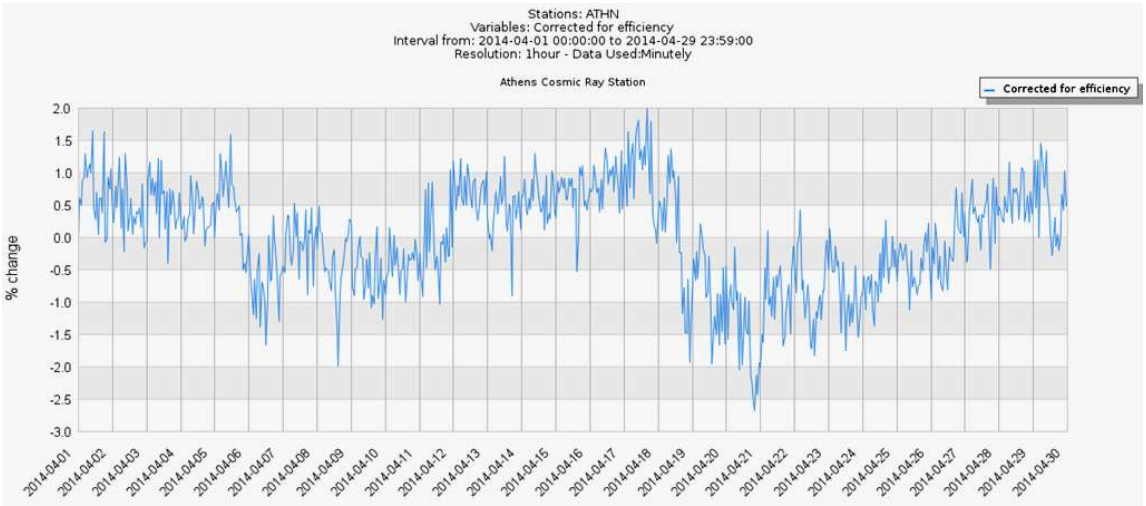

Figure 3: The corrected for efficiency cosmic ray counting rate of the Athens Neutron Monitor Station from 01-30.04.2014 (from multi station service of Athens).

Contact:
Prof. H. Mavromichalaki
email: emavromi@phys.uoa.gr
http://cosray.phys.uoa.gr