

Observation of GeV solar energetic particles with the Yangbajing neutron monitor in association with 2005 Jan 20th solar flare

Harufumi Tsuchiya[1]

[1] RIKEN

The world-wide network of neutron monitors observed ground level enhancement due to solar flare on 2005 Jan 20th, which the intensity and importance of the solar flare were X7.1 and 2B, respectively. Among the network, neutron monitor installed at Yangbajing, Tibet in China also detected high-energy particles in association with the solar flare. Latitude and longitude of Yangbajing are 30.102N and 90.522E, and an altitude is 4300m. Due to the geographical conditions, neutron monitor installed at Yangbajing has the highest cut-off rigidity of 14 GV for cosmic rays. Therefore, the detection of solar energetic particles in association with 2005 Jan 20th solar flare clearly indicates that protons are accelerated beyond 14 GeV at solar surface.

In this presentation, I will discuss the rigidity spectrum and propagation of solar protons in 2005 Jan 20th solar flare using the data obtained by other neutron monitors around the world as well as Yangbajing neutron monitor.