

Detection of 6 November 1997 Ground Level Event by Milagrito

Abe Falcone (UNH), for Milagro collaboration

Solar Energetic Particles (SEP) from the 6 November 1997 solar flare/CME with energies exceeding 10 GeV have been detected by Milagrito, a prototype of the Milagro Gamma Ray Observatory. While particle acceleration beyond 1 GeV at the Sun is well established, few data exist for protons or ions beyond 10 GeV. The Milagro observatory, a ground based water Cherenkov detector designed for observing very high energy gamma ray sources, can also be used to study the Sun. Milagrito, which operated for approximately one year in 1997/98, was sensitive to solar proton and neutron fluxes above 5 GeV. Milagrito operated in a scaler mode, which was primarily sensitive to muons, low energy photons, and electrons, and the detector operated in a mode sensitive to showers and high zenith angle muons. In its scaler mode, Milagrito registered a rate increase coincident with the 6 Nov 1997 ground level event observed by Climax and other neutron monitors. Initial results from an analysis of this event's proton spectrum will be presented.