

Sensitivity estimation of LHAASO-WCDA for observing GLE events

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Ground Level Enhancement (GLE) events of solar cosmic ray refer to the sudden, sharp and short-lived enhancement of ground level energetic particles generated from solar flare. The study of GLE events has been playing an important role in the study of solar activity and basic physics of cosmic rays. The Large High Altitude Air Shower Observatory (LHAASO), a multi-component instrument, is located at high altitude (4410 m a.s.l.) in Daocheng, Sichuan province, P.R. China, with the one of the main aims to observe GLE events. The sensitivity of LHAASO-WCDA to observe GLE events has been estimated in this paper. The minimum flux needed for LHAASO-WCDA to observe GLE event has been calculated by using the energy spectrum of 13 GLE events during 22 solar cycles. The result shows that LHAASO-WCDA can observe GLE events with the energy exceeds 50, 100, 200 or 500 GeV.

Subcategory

Theoretical Results

other Collaboration

Collaboration

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