

# Ground Level Enhancements — The Global Modelling Approach

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Ground Level Enhancements (GLEs) arise when protons are accelerated to relativistic energies at the sun, invariably associated with X-class flares, and the protons propagate to Earth and produce statistically significant increase in ground based cosmic ray detectors. The global modelling approach allows simultaneous derivation of the arrival direction, spectrum and pitch angle distribution of the particles at Earth. A review of the technique is presented together with examples of information deduced for different events.