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## The Longitudinal Distribution of Solar Energetic Particles

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Using observations from the High Energy Telescopes on STEREO A and B and similar observations from SoHO, near-Earth, we have identified ~250 individual solar energetic particle events that include >14 MeV protons since the beginning of the STEREO mission (Richardson, et al., Solar Physics, 2014). Between the end of December 2009, when the STEREO A and B spacecraft were, respectively, ahead and behind Earth by ~ 65° in ecliptic longitude, and the end of December 2013, 43 different events were clearly detected at all three locations. The observed intensities of such an event are usually fit with a Gaussian which is a function of the longitudes of the Parker Spiral footpoints at the Sun for each observer. This neglects the fact that the interplanetary magnetic field may have large deviations from Parker Spirals, e.g. due to coronal mass ejections from prior events. Nonetheless, we have fit Gaussians to the peak intensities observed simultaneously at three spacecraft for all 43 events, taking into account particles coming around the Sun both from the east and from the west. The Gaussian peak intensity is poorly correlated with the corresponding CME speed and the FWHM is uncorrelated with the CME speed. Surprisingly, however, there appear to be distinctly non-random variations of the FWHM values from event to event. We will investigate possible causes of this effect.

### Collaboration

– not specified –

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