



*Figure 1.1.1: Time history of energetic protons (lower plot, from GOES-11) and electrons (upper plot: top trace, EPAM/ACE; bottom traces, PET/SAMPEX) from the "Halloween Storms", 26 October to 7 November 2003, (adapted from Mewaldt et al. 2005a). Major proton events are labeled 1 to 5. Flux increases for ions up to a few tens of MeV energy at interplanetary shocks (dashed lines) suggest in situ acceleration, but electrons and higher energy ions appear to be accelerated close to the Sun near the time of the X-class flares (dotted lines).*