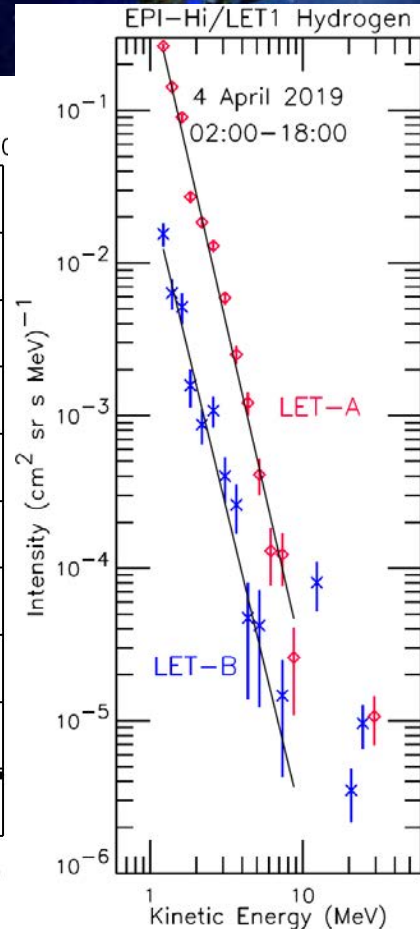
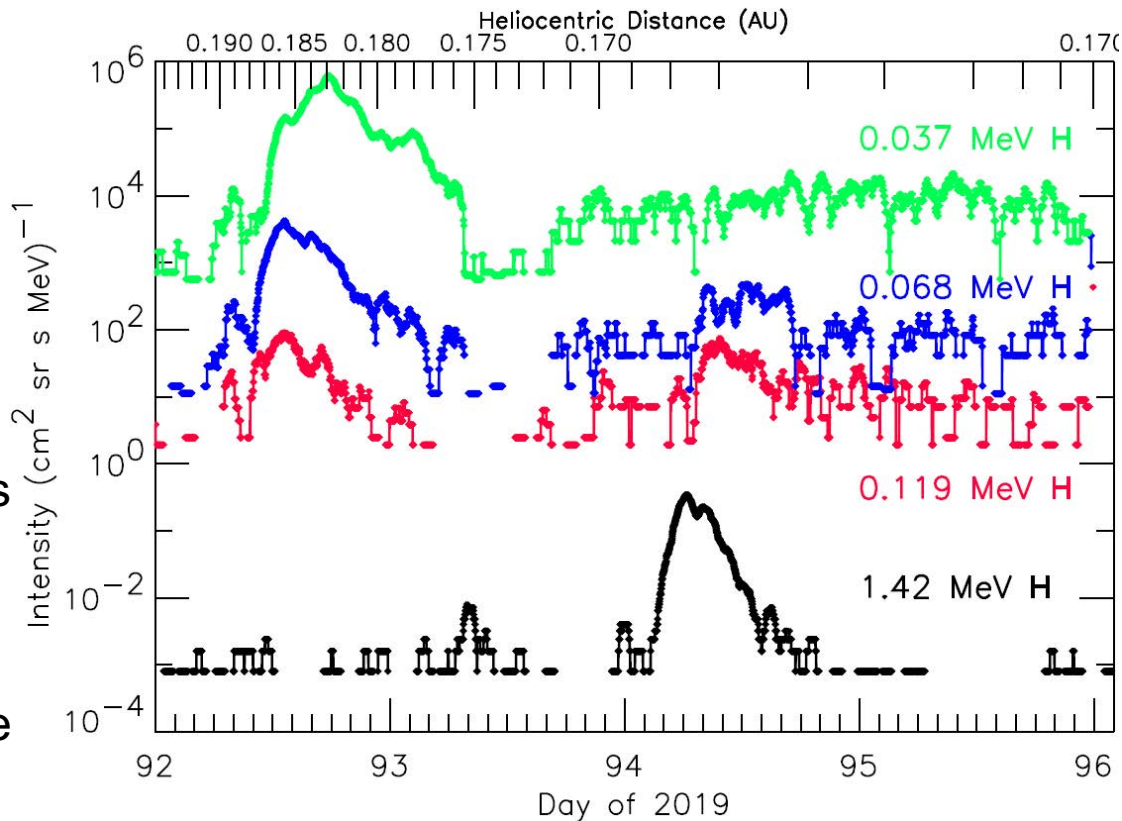




Observations of the 4 April 2019 SEP Event at PSP



- An SEP event was observed by PSP on 4 April 2019 at 0.17 AU, unprecedentedly close to the source.
- The event was very small, brief, undetectable above 10 MeV (or at 1 AU), and highly anisotropic. Above 1 MeV, the spectrum was consistent with a soft power law, with index -4.3. The source region was $\sim 80^\circ$ east of the nominal PSP magnetic footpoint, raising questions about particle transport.
- No shock was detected, and no flares were observable, but small surges were seen in STEREO-A/EUVI and type III radio emission was detected by PSP/FIELDS/RFS in association with the energetic particle activity.



Left: Time profiles from EPI-Lo (top 3) and EPI-Hi (bottom) during the 2 April and 4 April SEP events. The 2 April event was larger at low energies, but the 4 April event was larger at higher energies. Right: Proton spectra coming from (red) and heading towards (blue) the Sun.