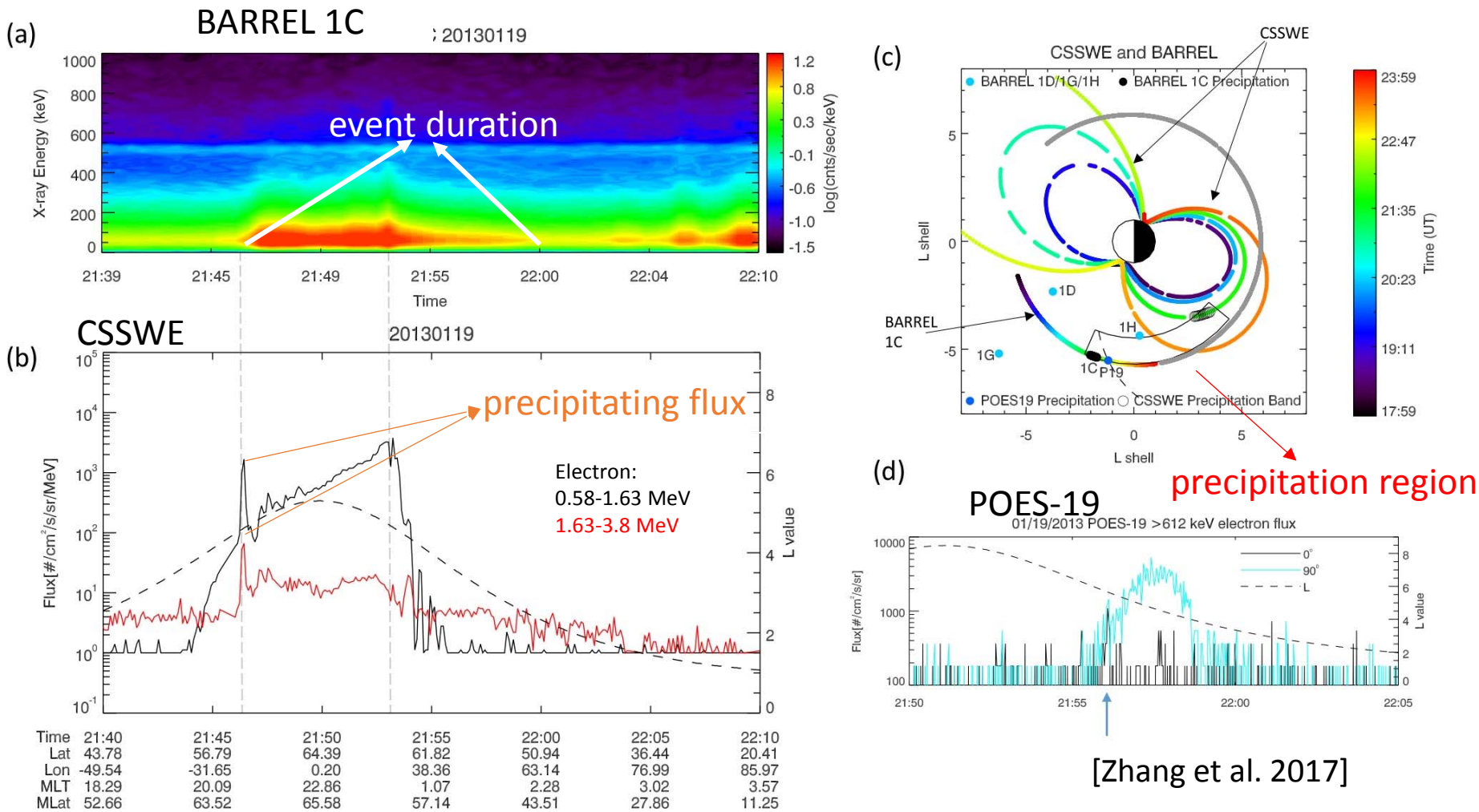
Electron precipitation event (Jan 19th, 2013)

Observed by CSSWE, BARREL 1C and POES-19

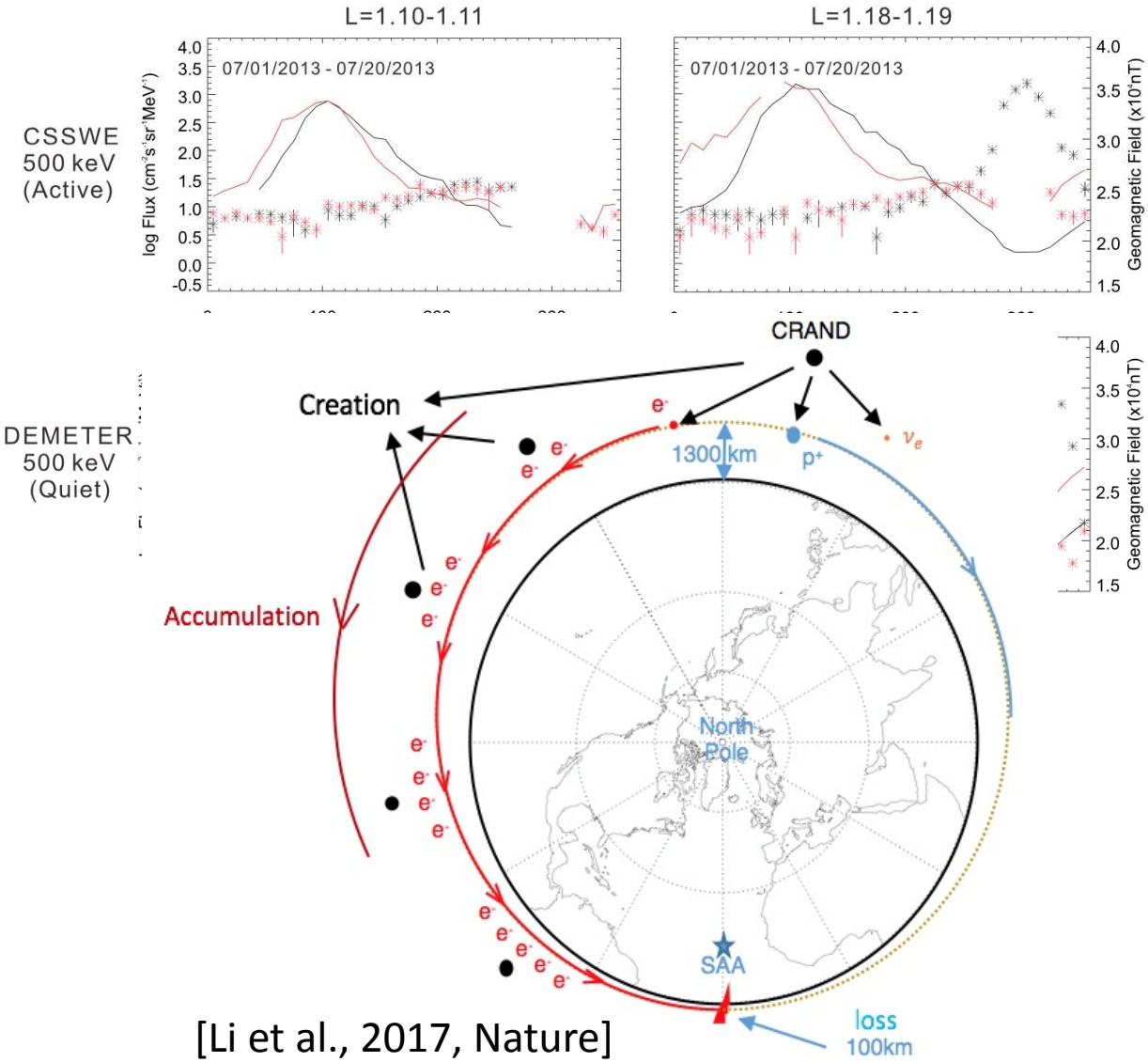


[Zhang et al. 2017]

The electron content is estimated using Van Allen Probes A data.

The net loss is estimated to be 6.8% of the total electron content in L=3.5-6 (0.58-1.63 MeV)

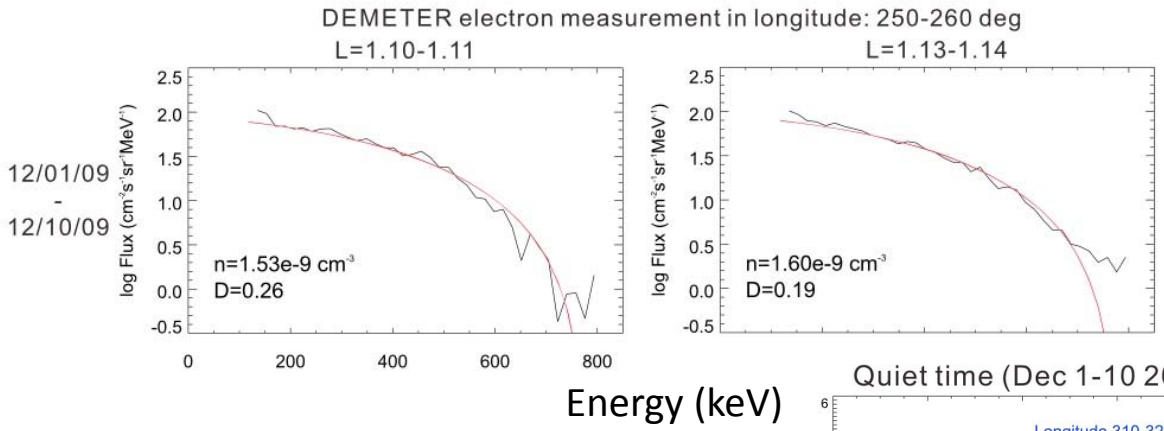
Drift loss of electrons observed by LEO satellites



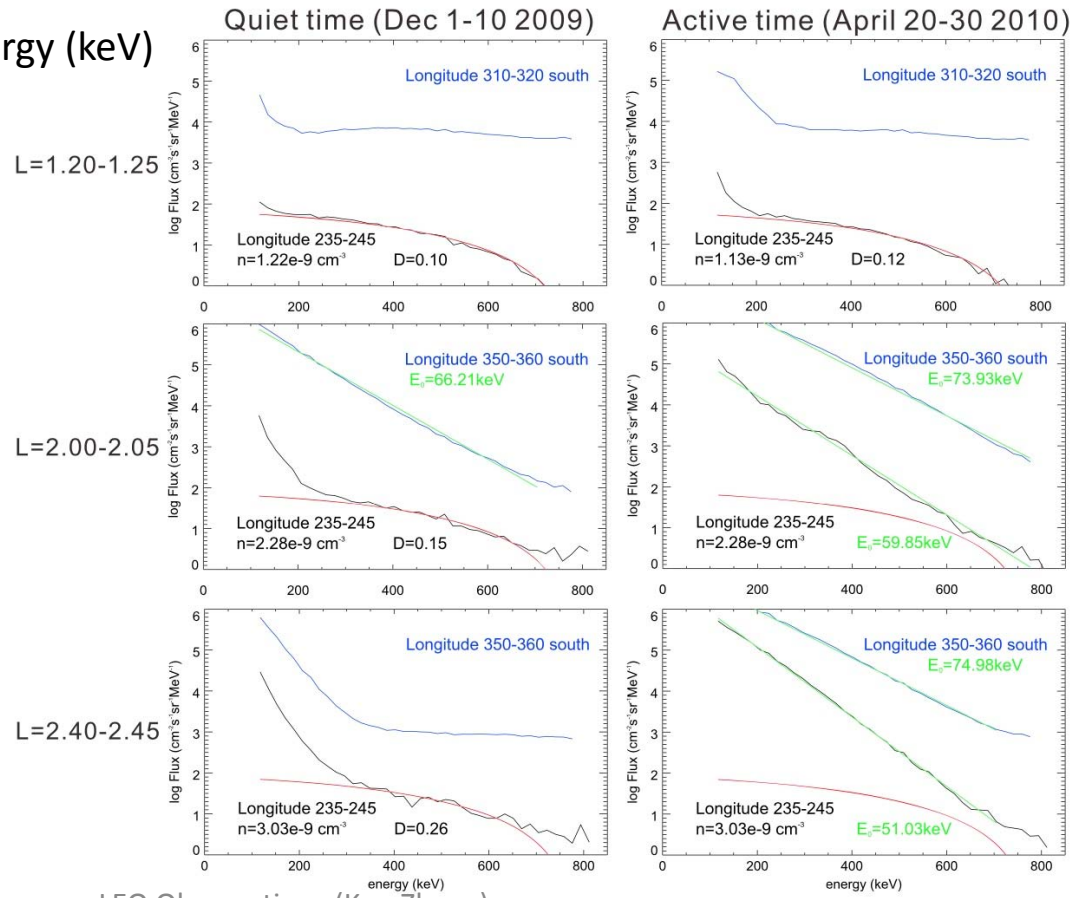
[Li et al., 2017, Nature]

- Happens across a wide range of L including both inner and outer belts.
- At the inner edge of the inner belt (L<1.14), electron source is found to be CRAND.

CRAND spectra measured by DEMETER



- CRAND produces electrons up to 782 keV.
- Produced electrons follow β-decay spectrum.



- Around solar minimum, CRAND source is important up to L=1.2.
- During quiet time, CRAND spectra are observed even in the slot region.