

Credits: European Space Agency/NASA

Polarization of Type III Radio Bursts

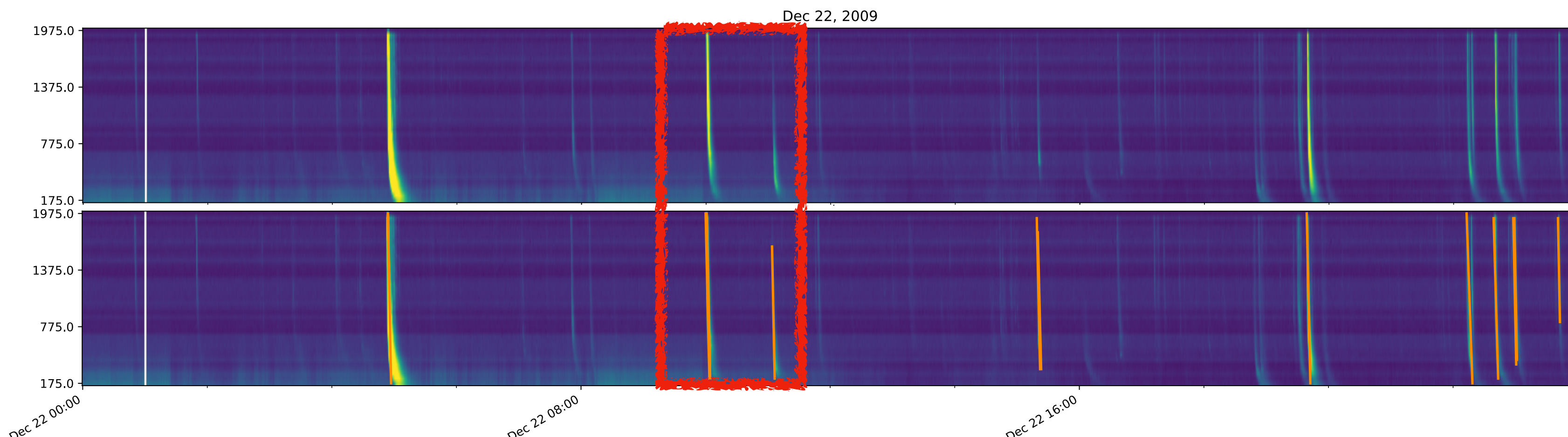
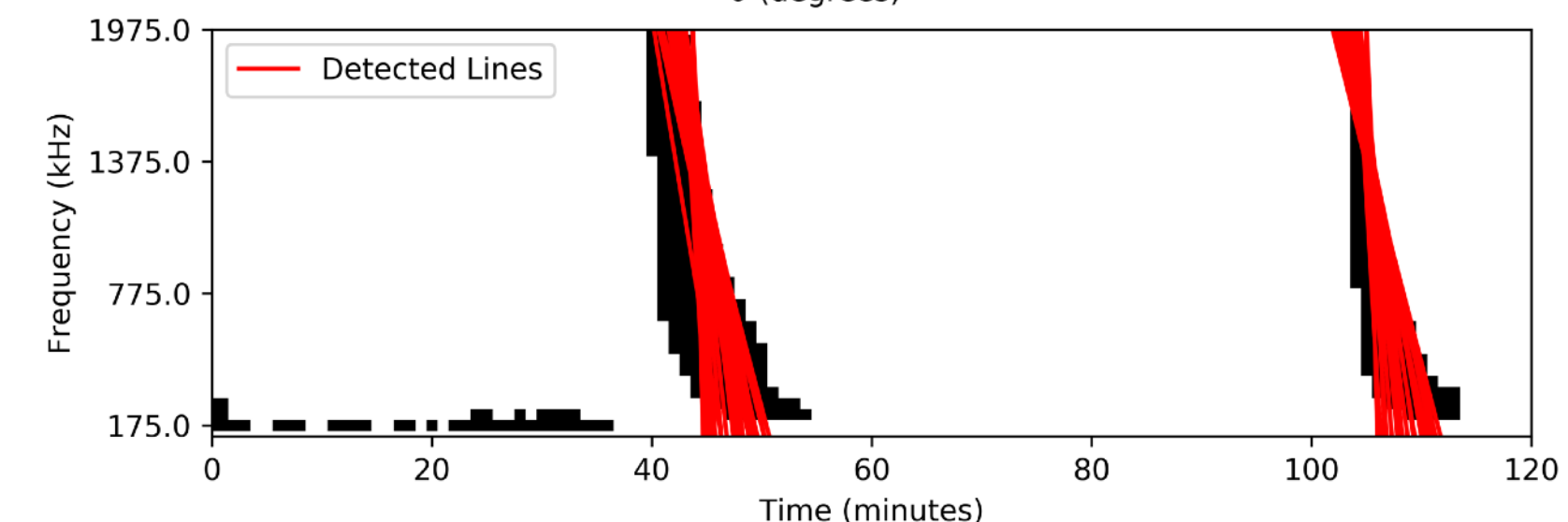
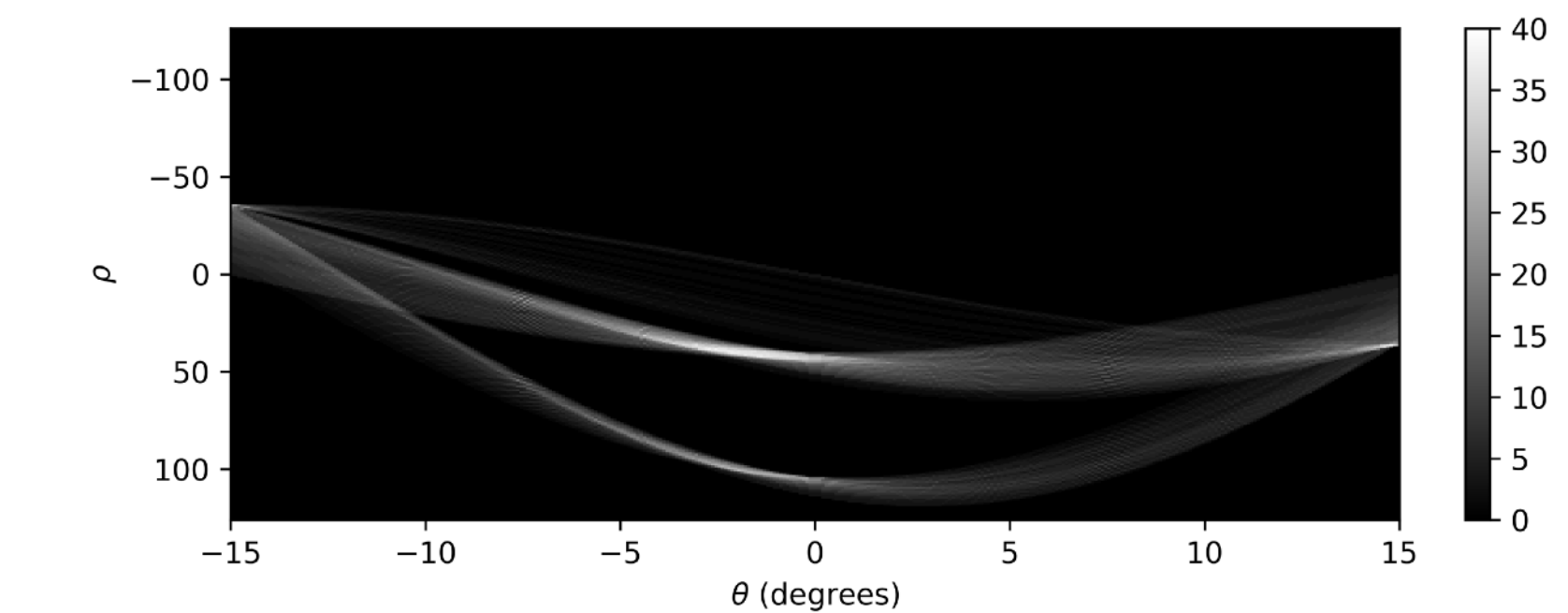
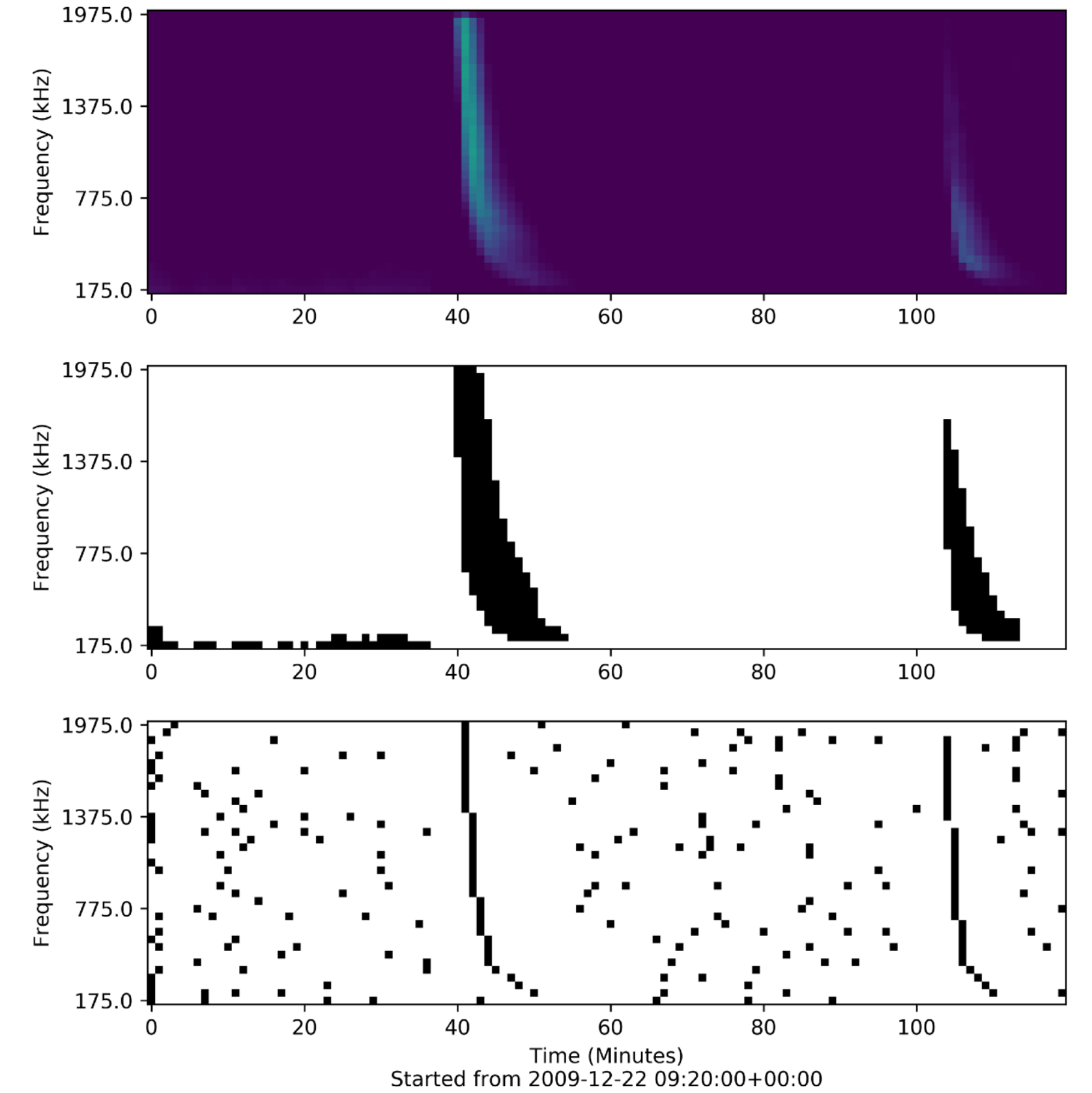
Vratislav Krupar

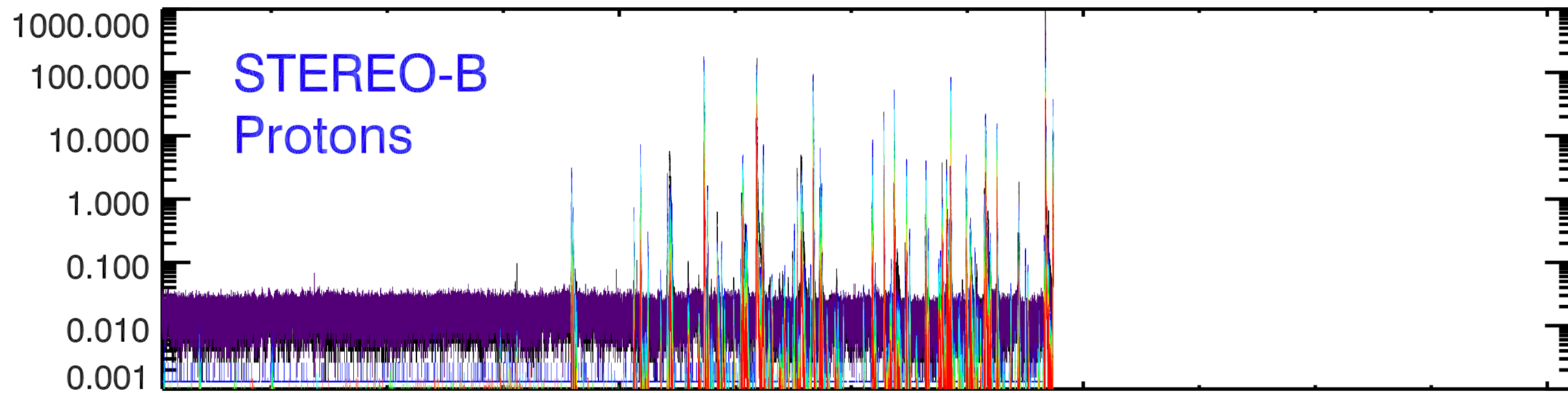
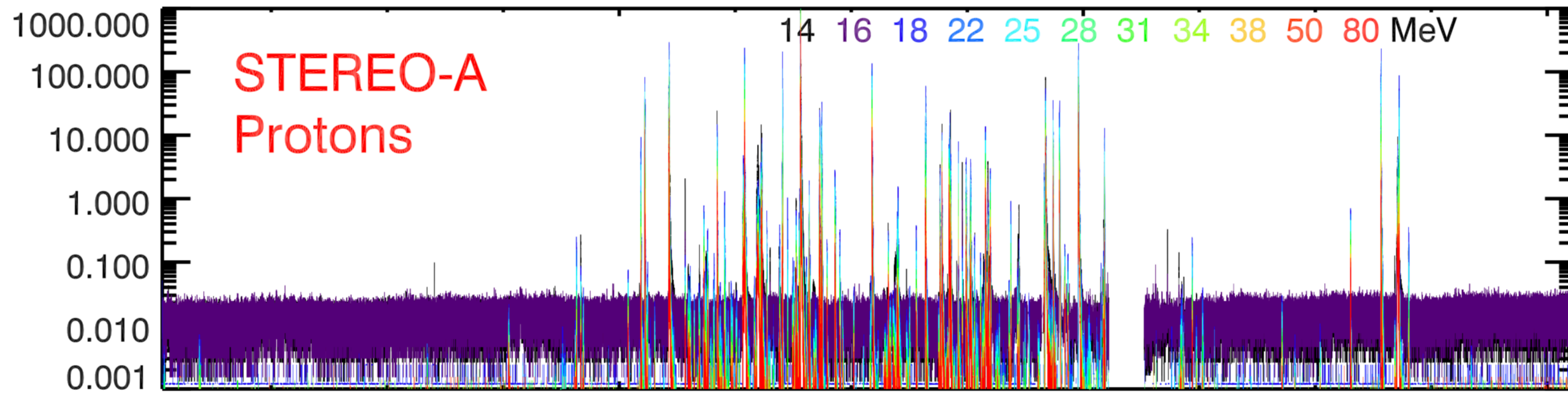
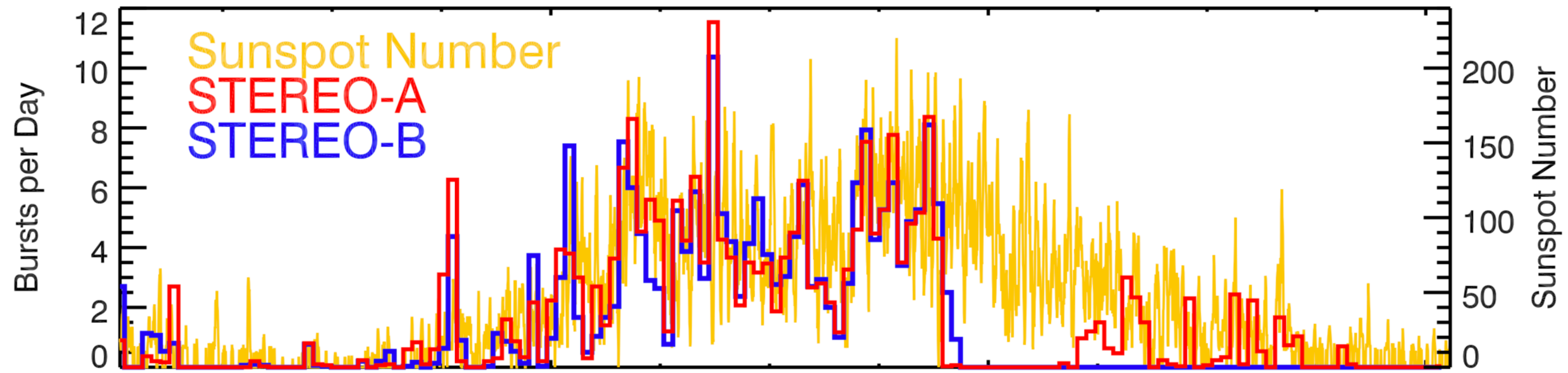
Nov. 30, 2021



Automated type III burst detection for STEREO

- Nearly continuous radio measurements since 2006
- A large number of radio emissions covering three solar cycles
- The **Hough transform** -> detection and recognition of line segments on the binarized and cleaned spectrum images
- Inspired by application of **Zhang et al.** (2018, A&A) to ground-based radio measurements



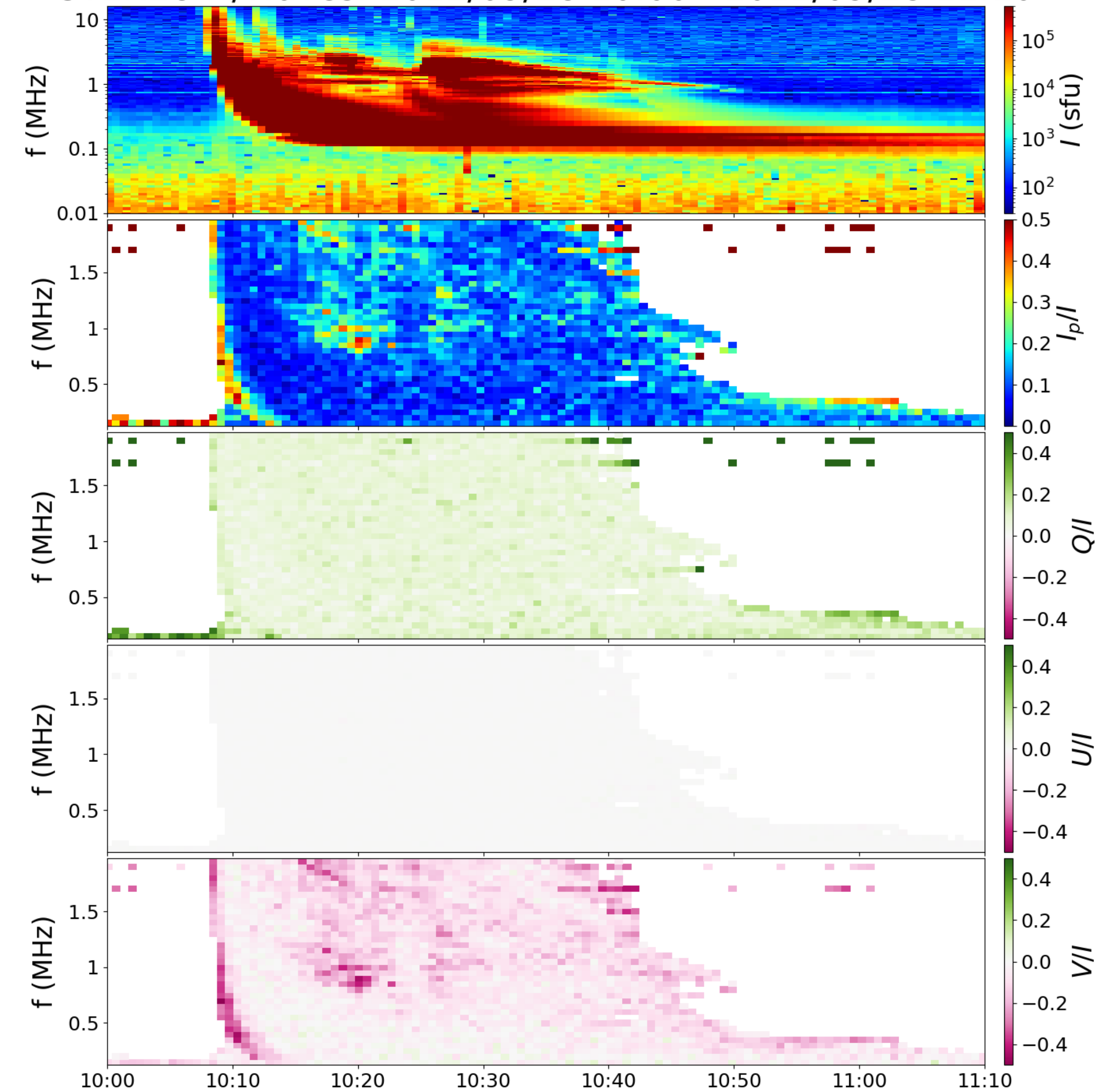


2011AD

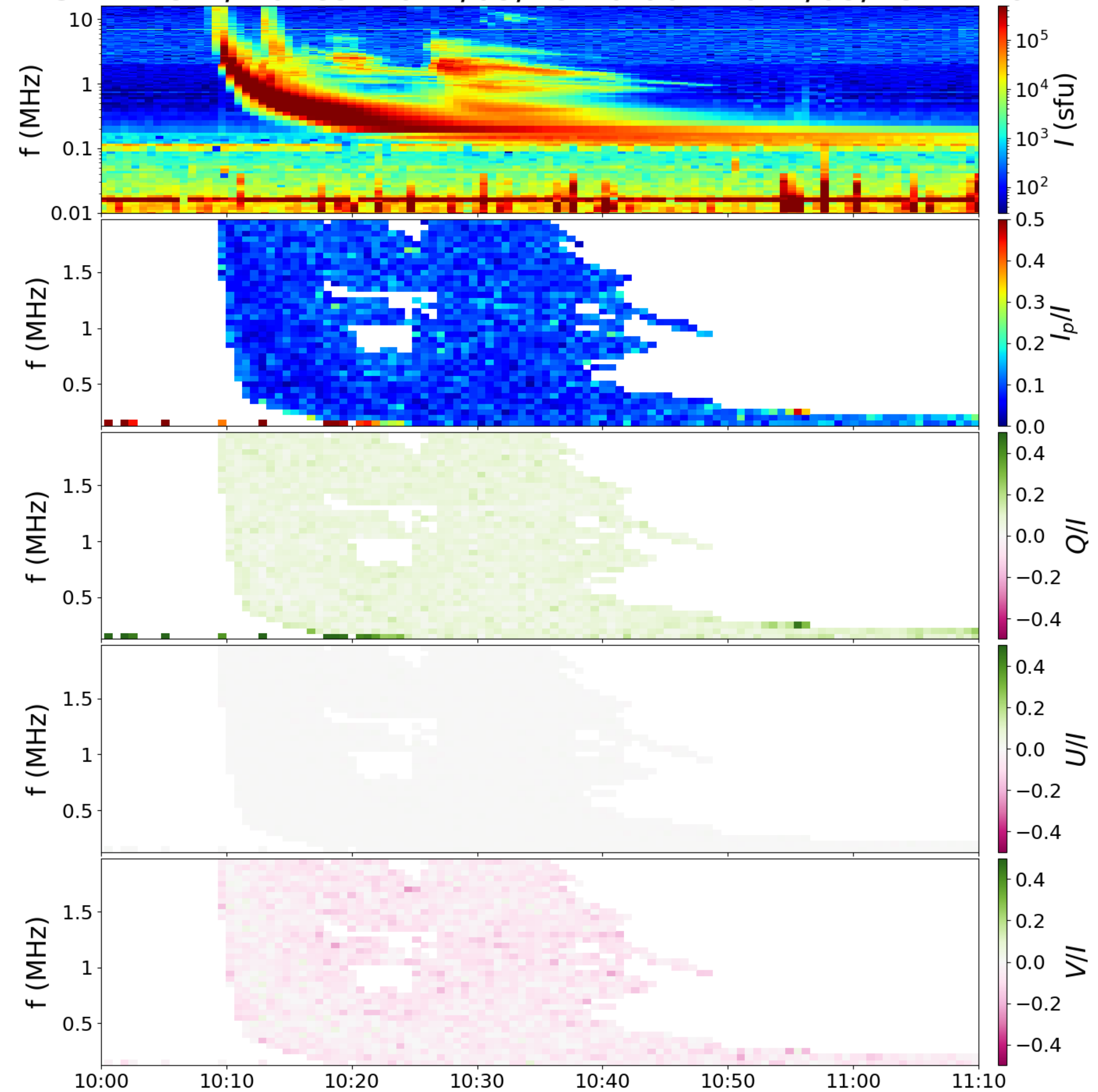
2015AD

2019AD

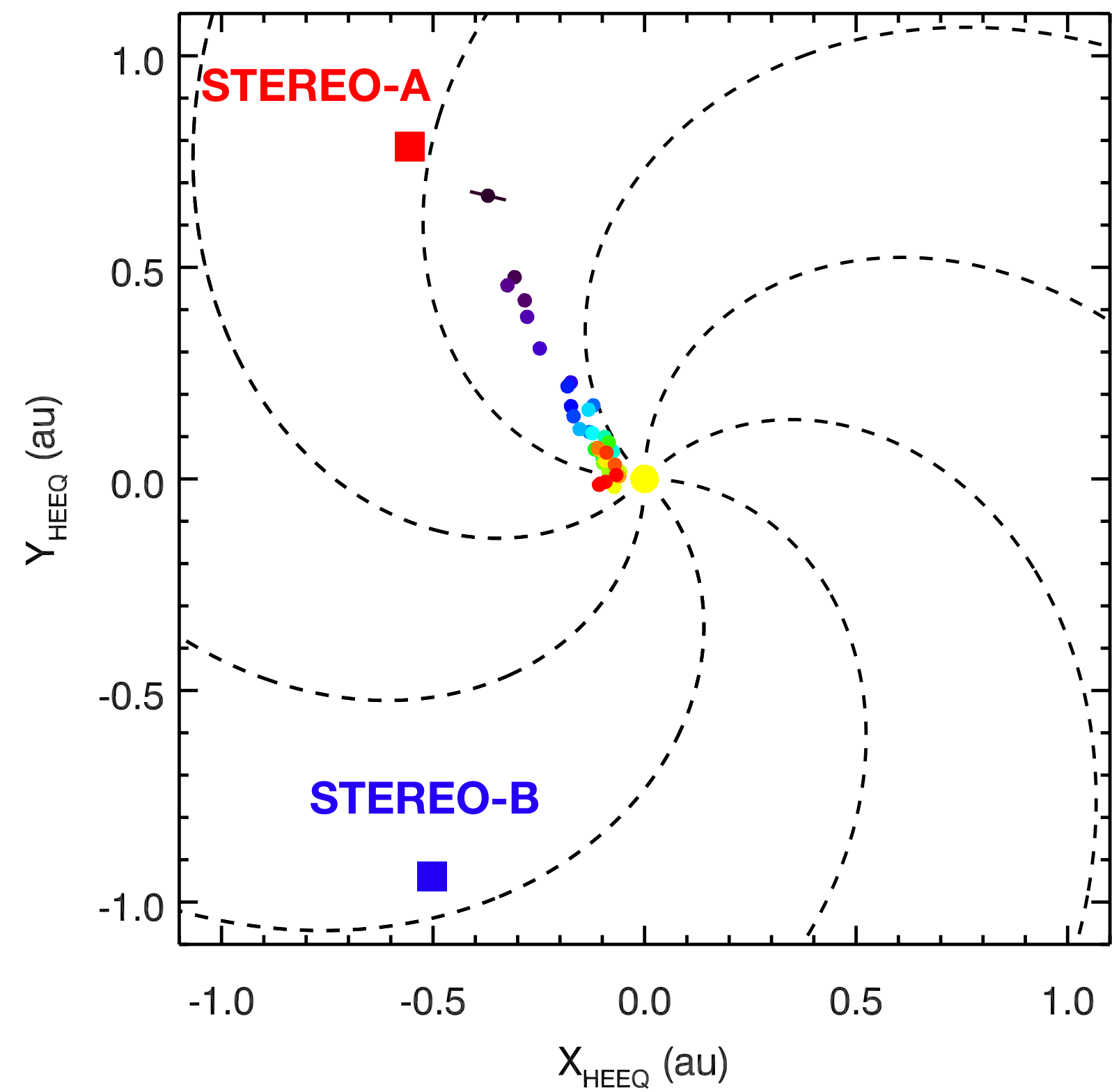
STEREO-A/Waves: 2012/09/28 10:00 - 2012/09/28 11:10



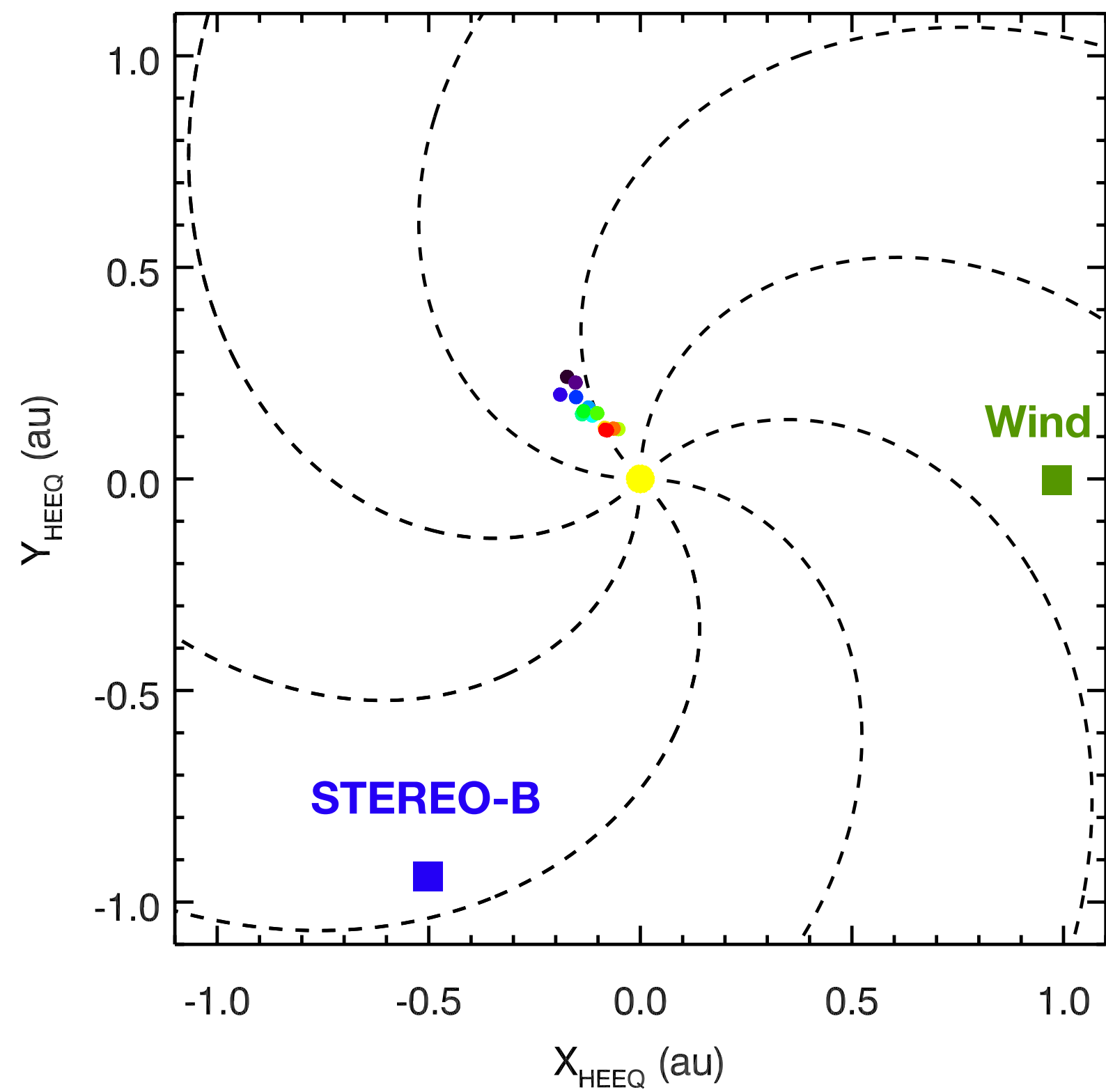
STEREO-B/Waves: 2012/09/28 10:00 - 2012/09/28 11:10



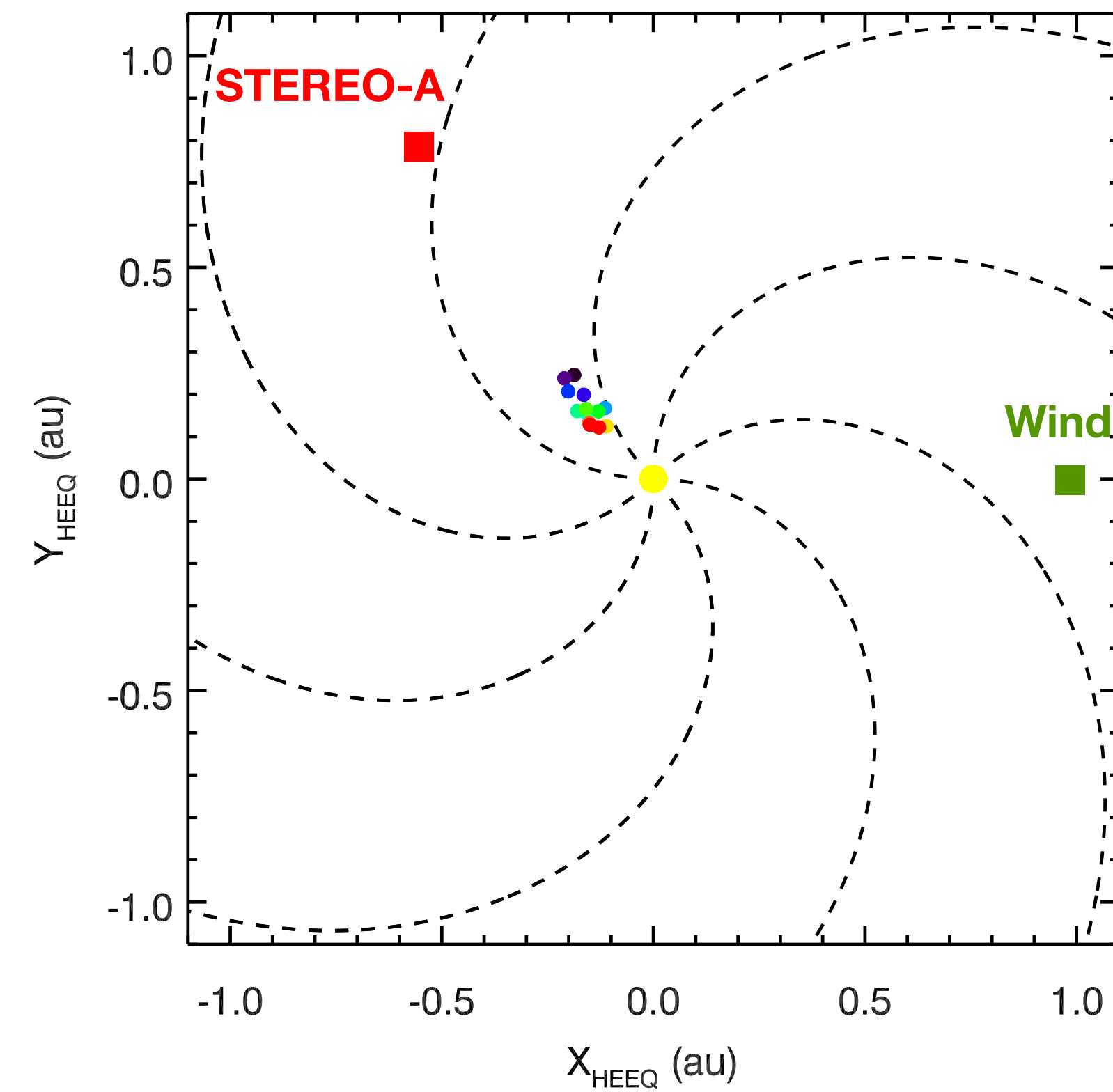
2012-09-28 10:00 - 11:02



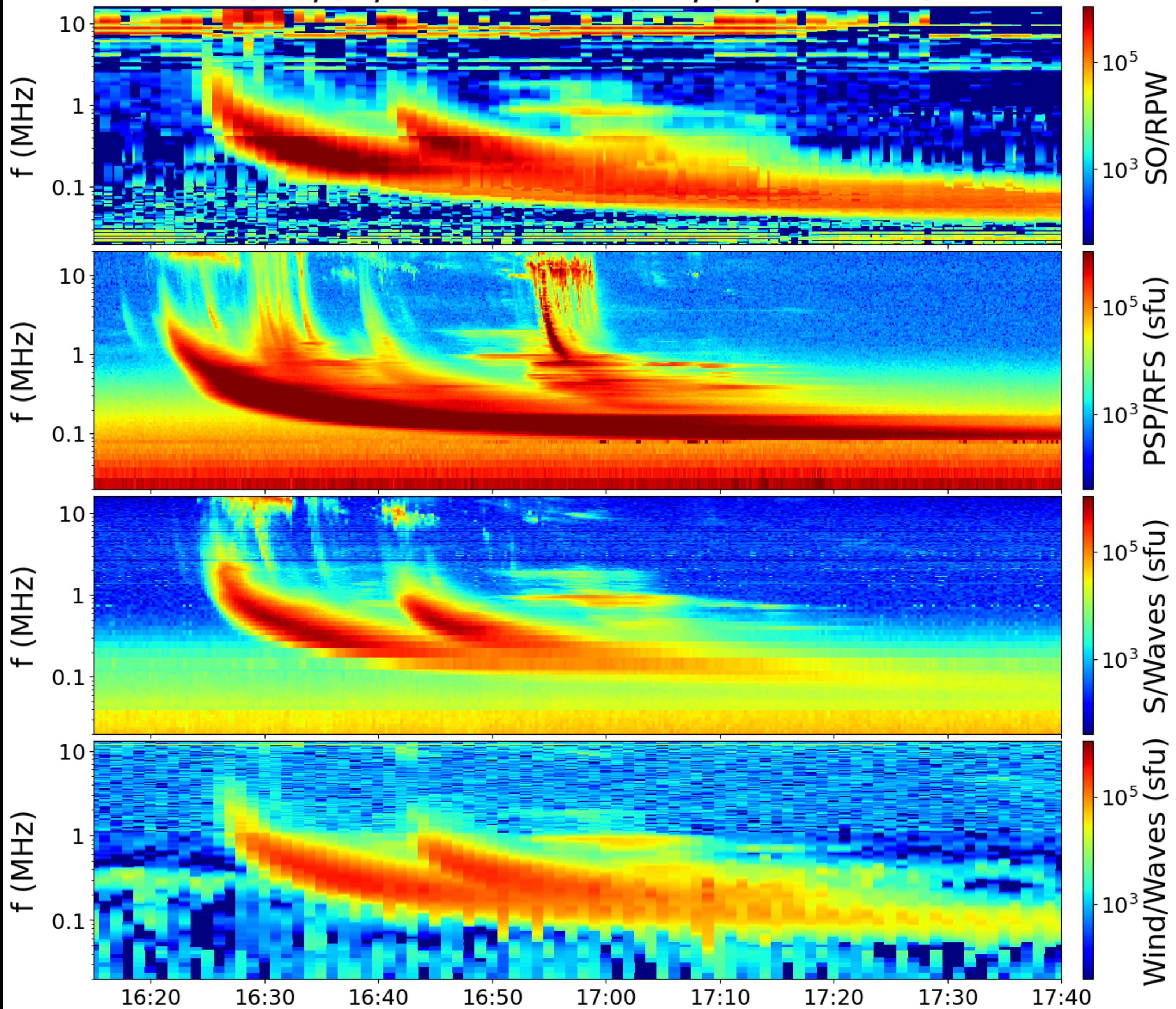
2012-09-28 10:00 - 11:01



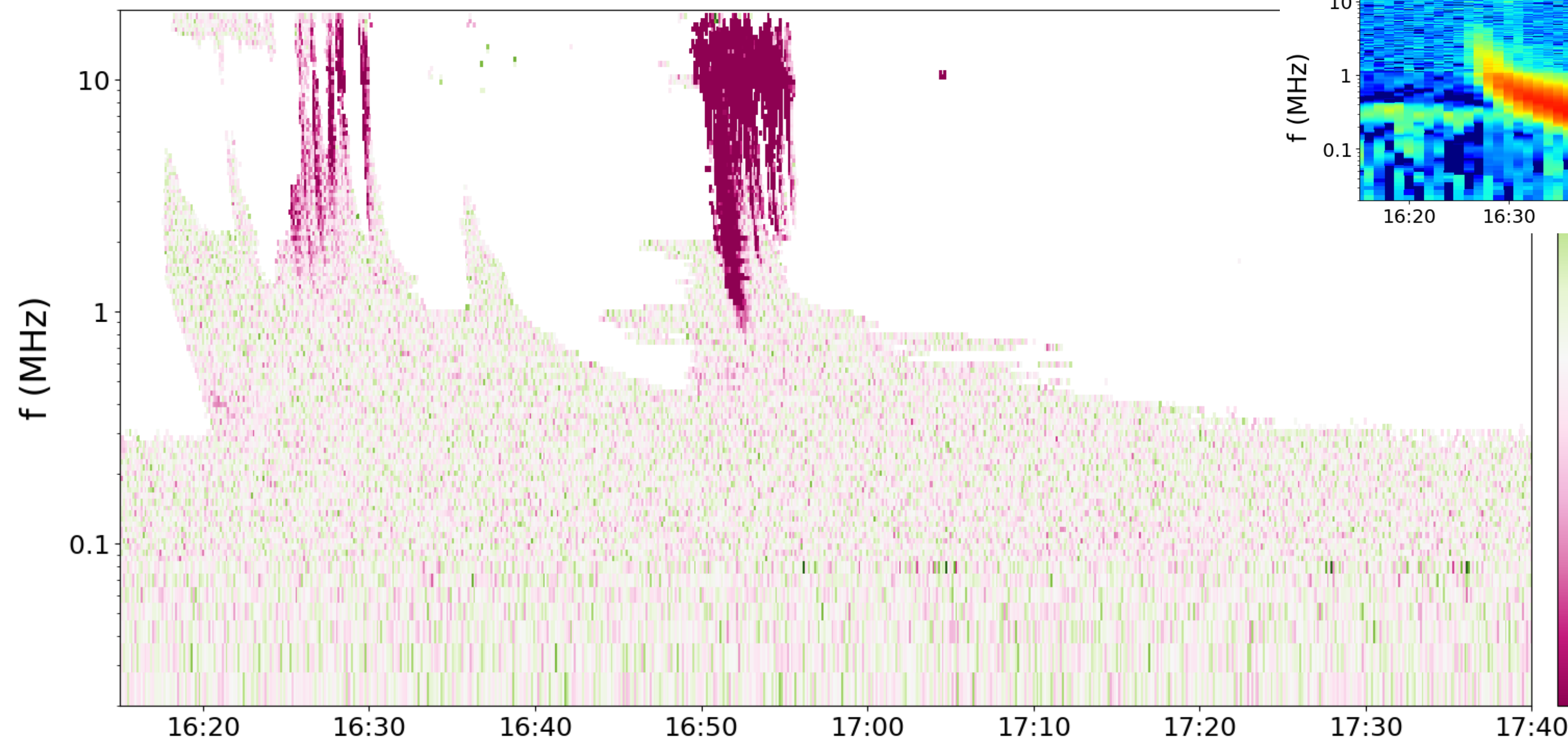
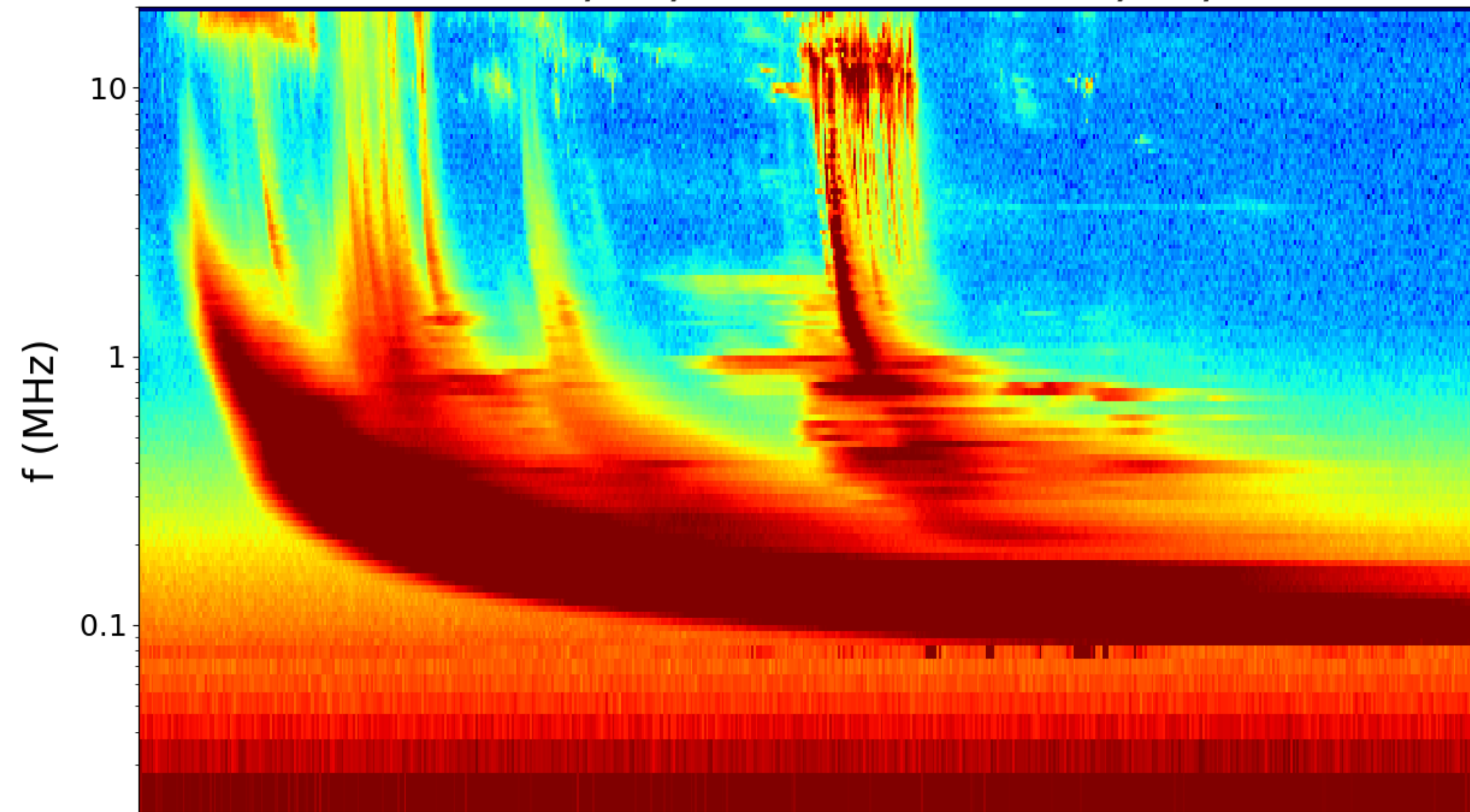
2012-09-28 10:00 - 11:00



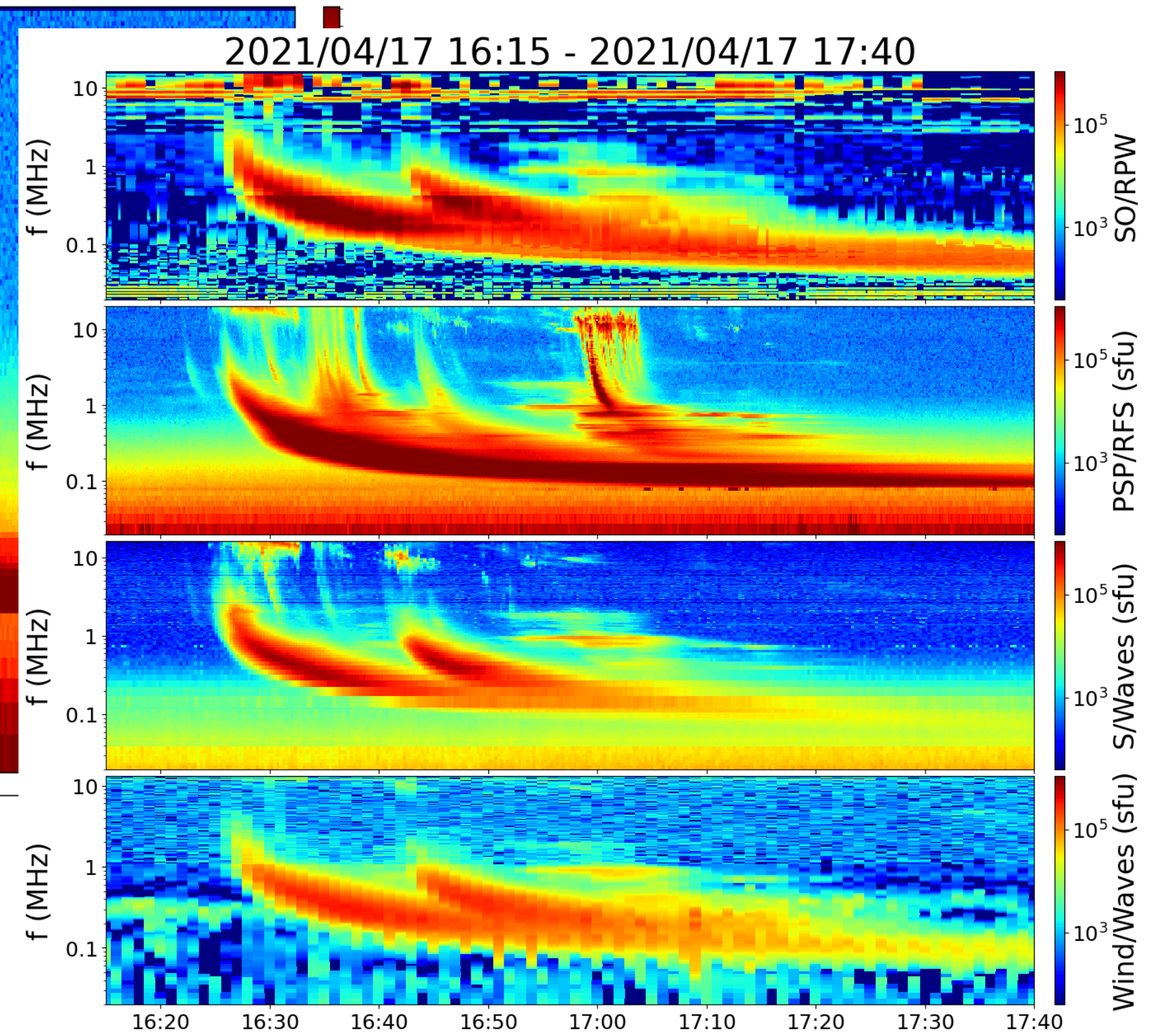
2021/04/17 16:15 - 2021/04/17 17:40



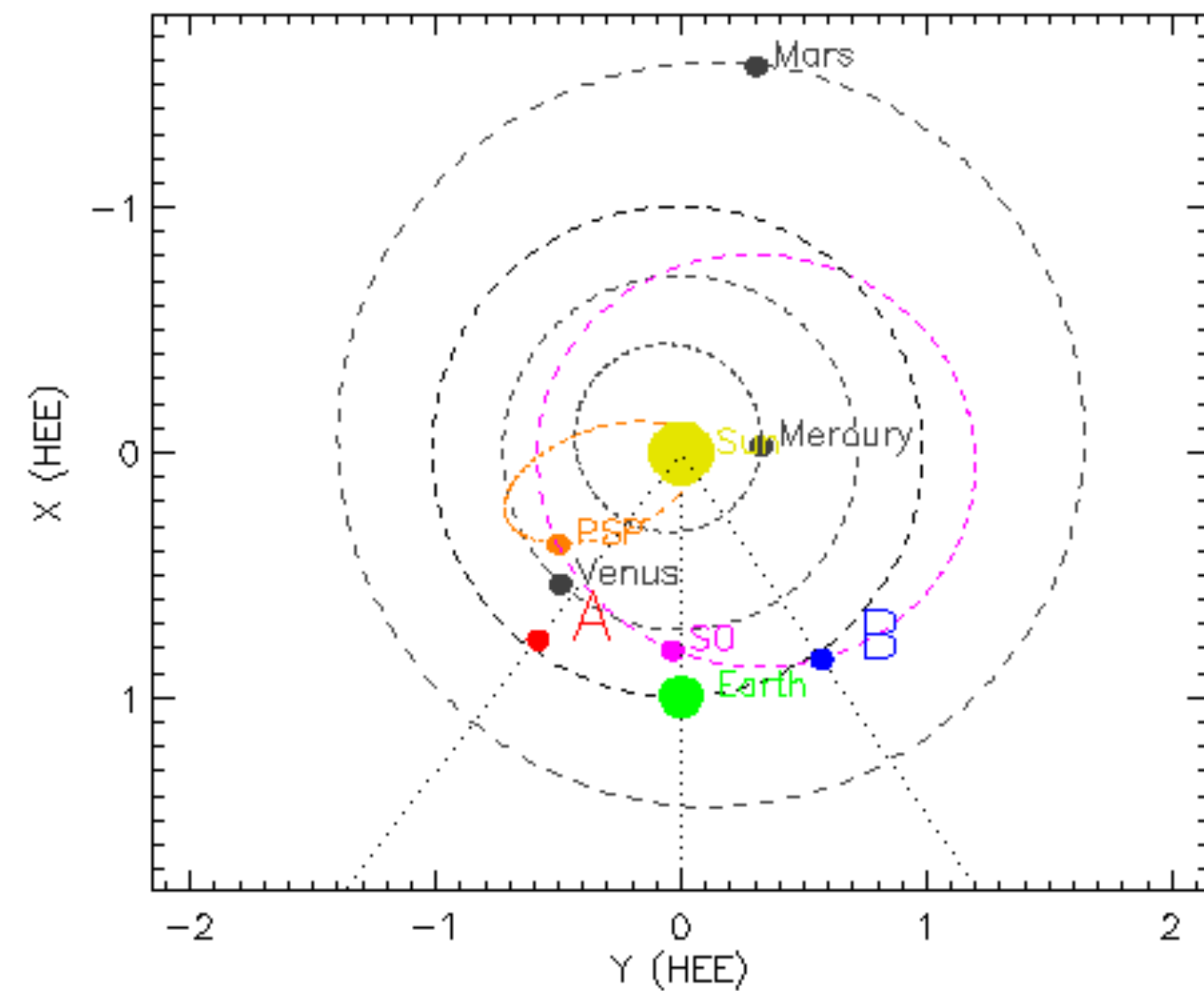
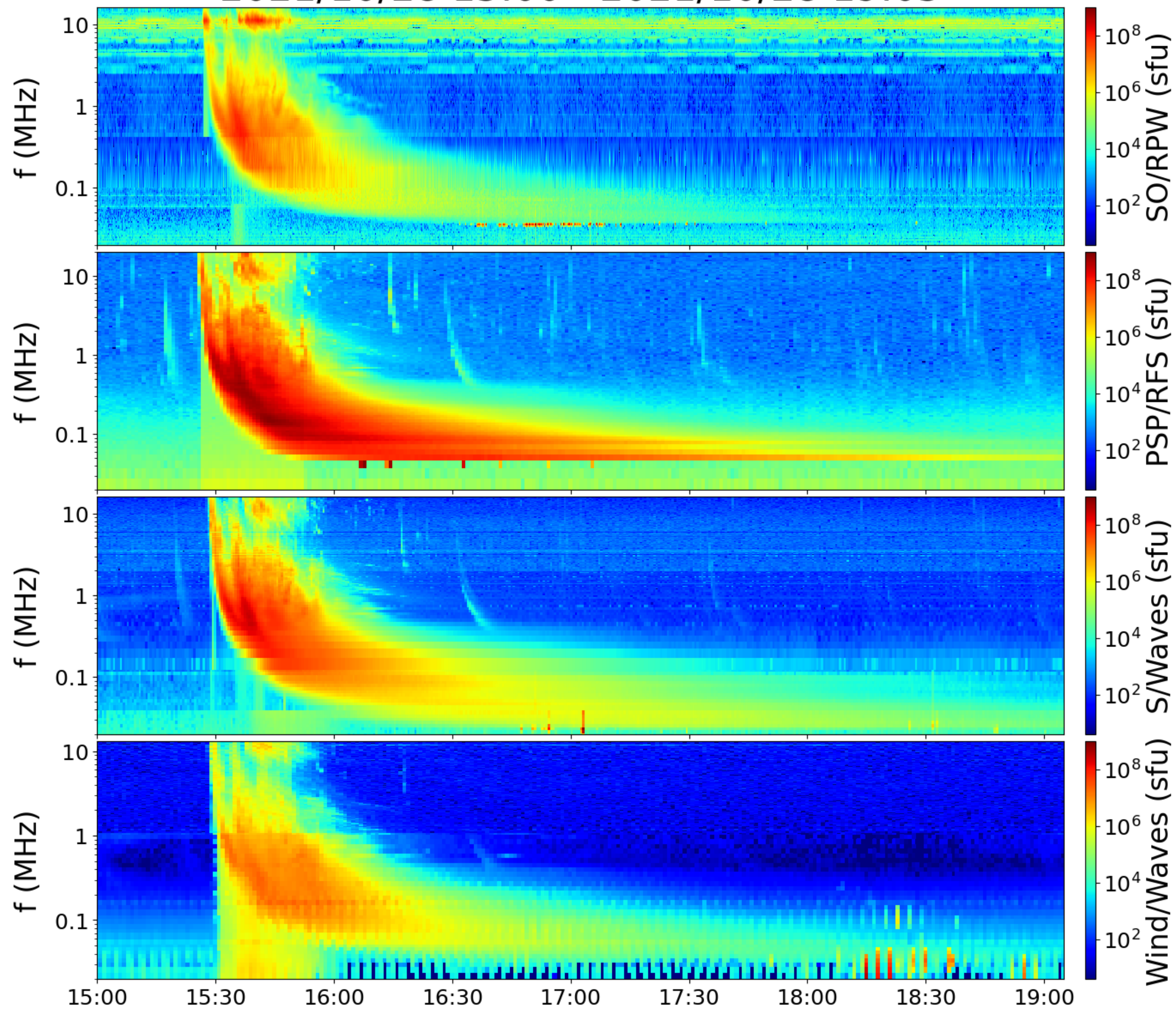
2021/04/17 16:15 - 2021/04/17 17:40



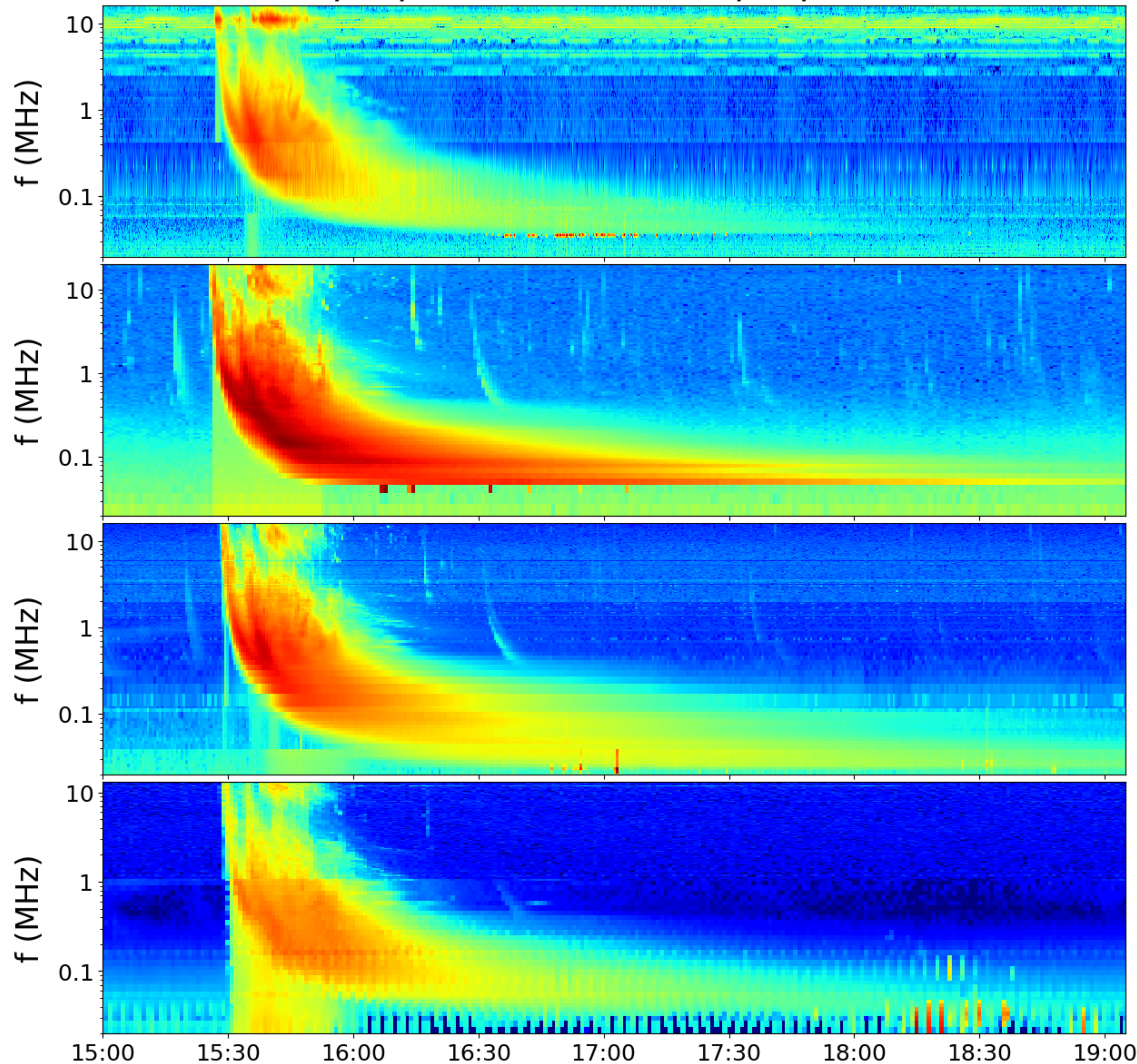
2021/04/17 16:15 - 2021/04/17 17:40



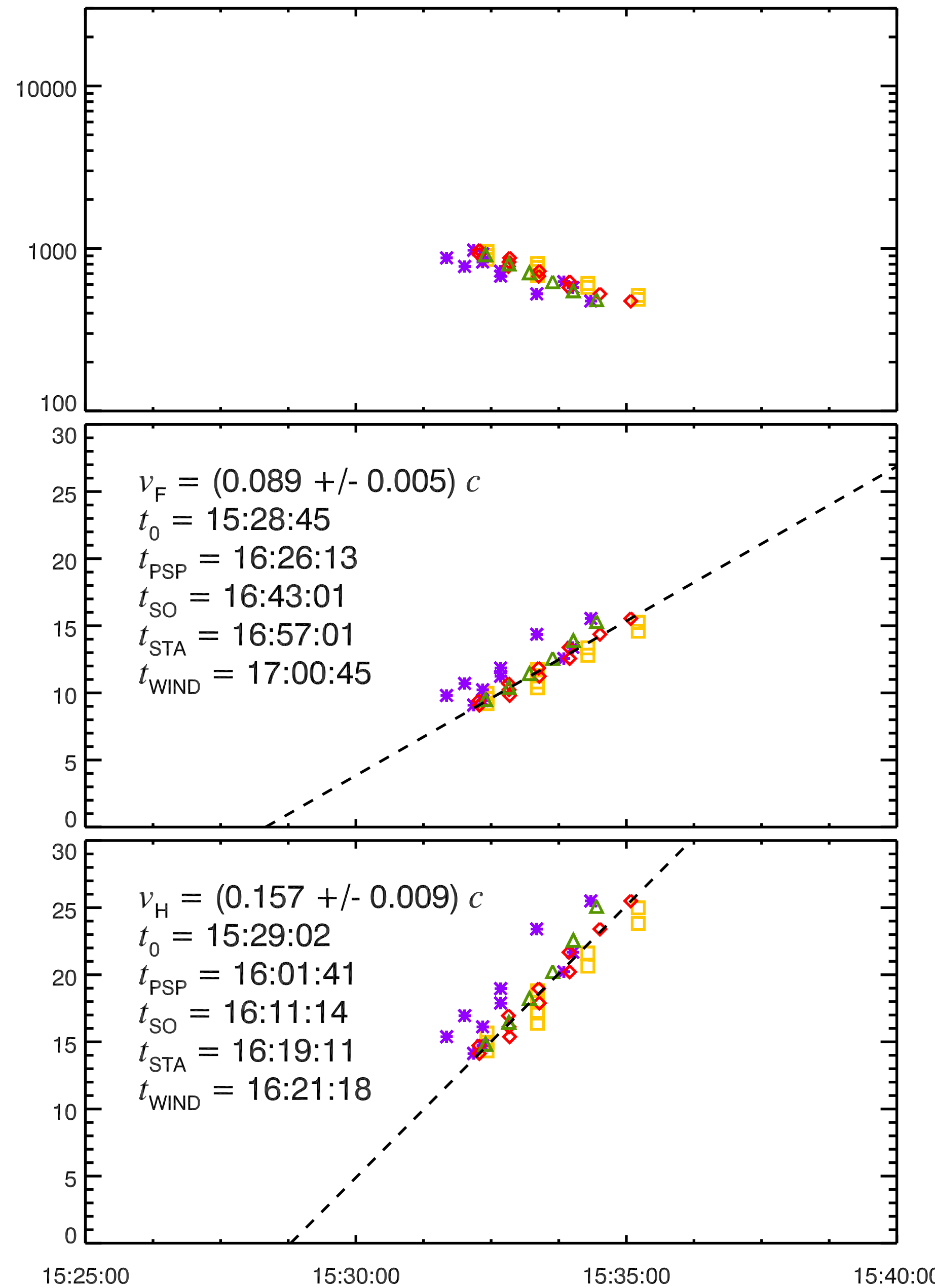
2021/10/28 15:00 - 2021/10/28 19:05



2021/10/28 15:00 - 2021/10/28 19:05

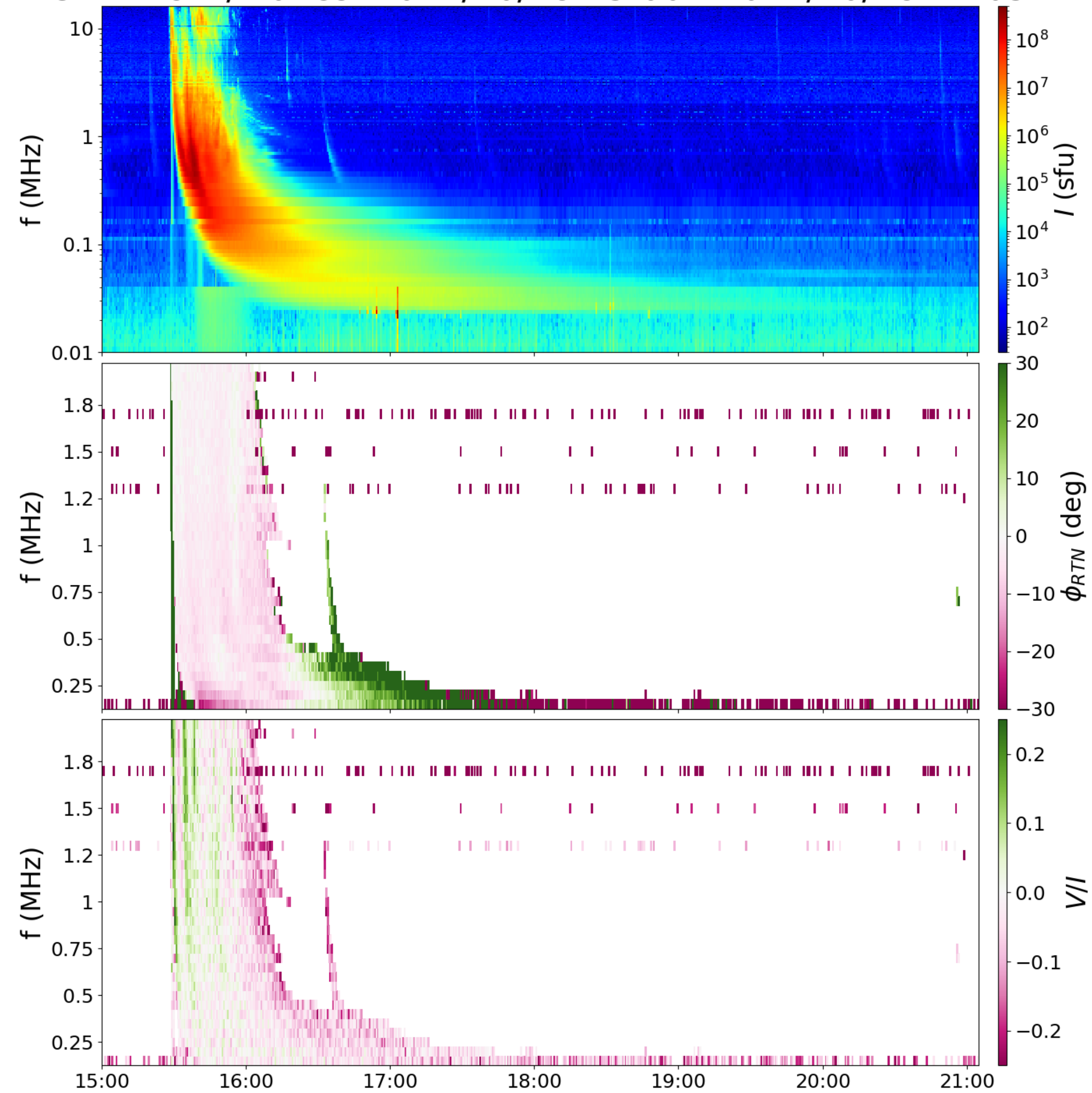


SO/RPW (sfu)
PSP/RFS (sfu)
S/Waves (sfu)
Wind/Waves (sfu)

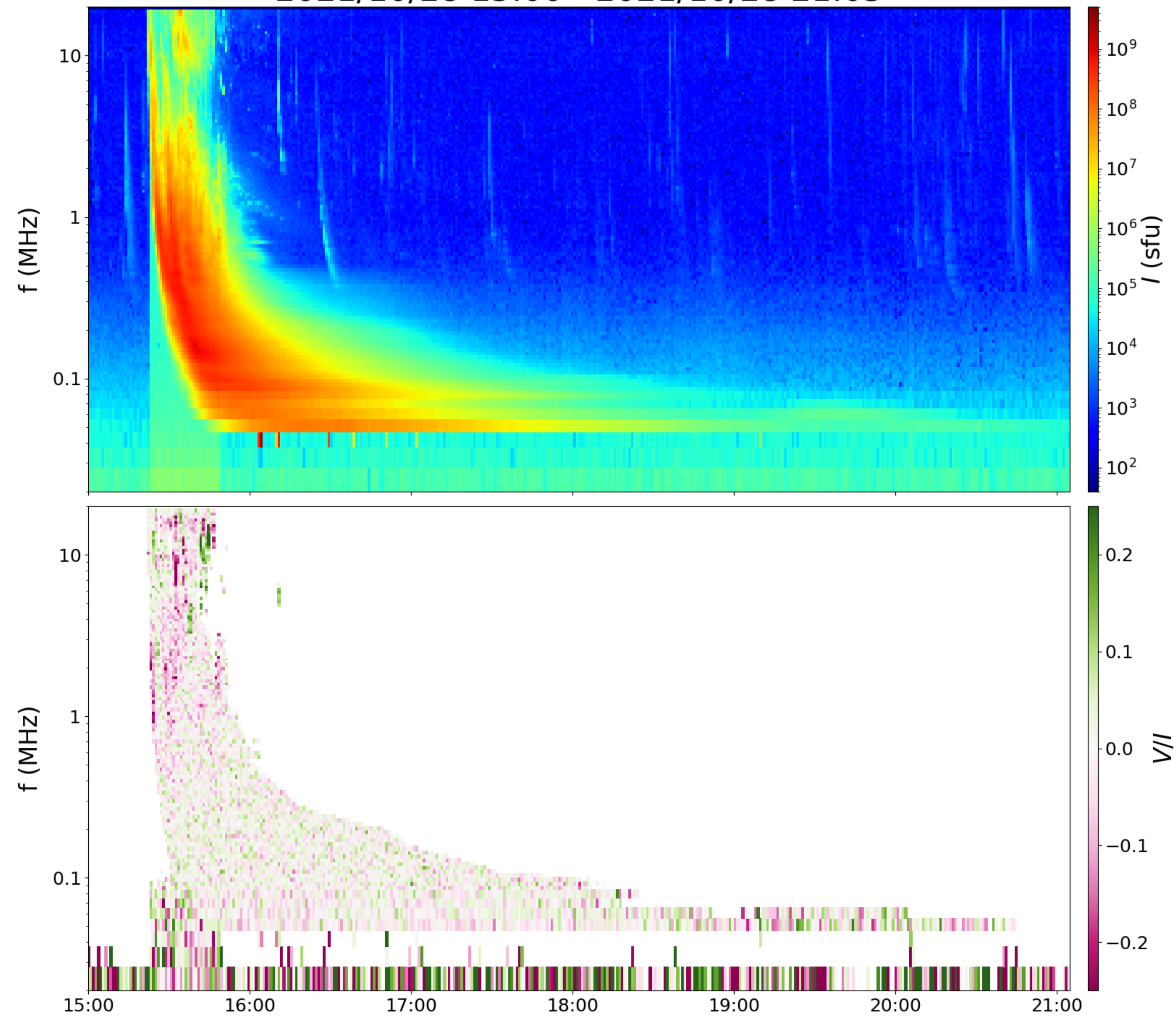


15:25:00 15:30:00 15:35:00 15:40:00

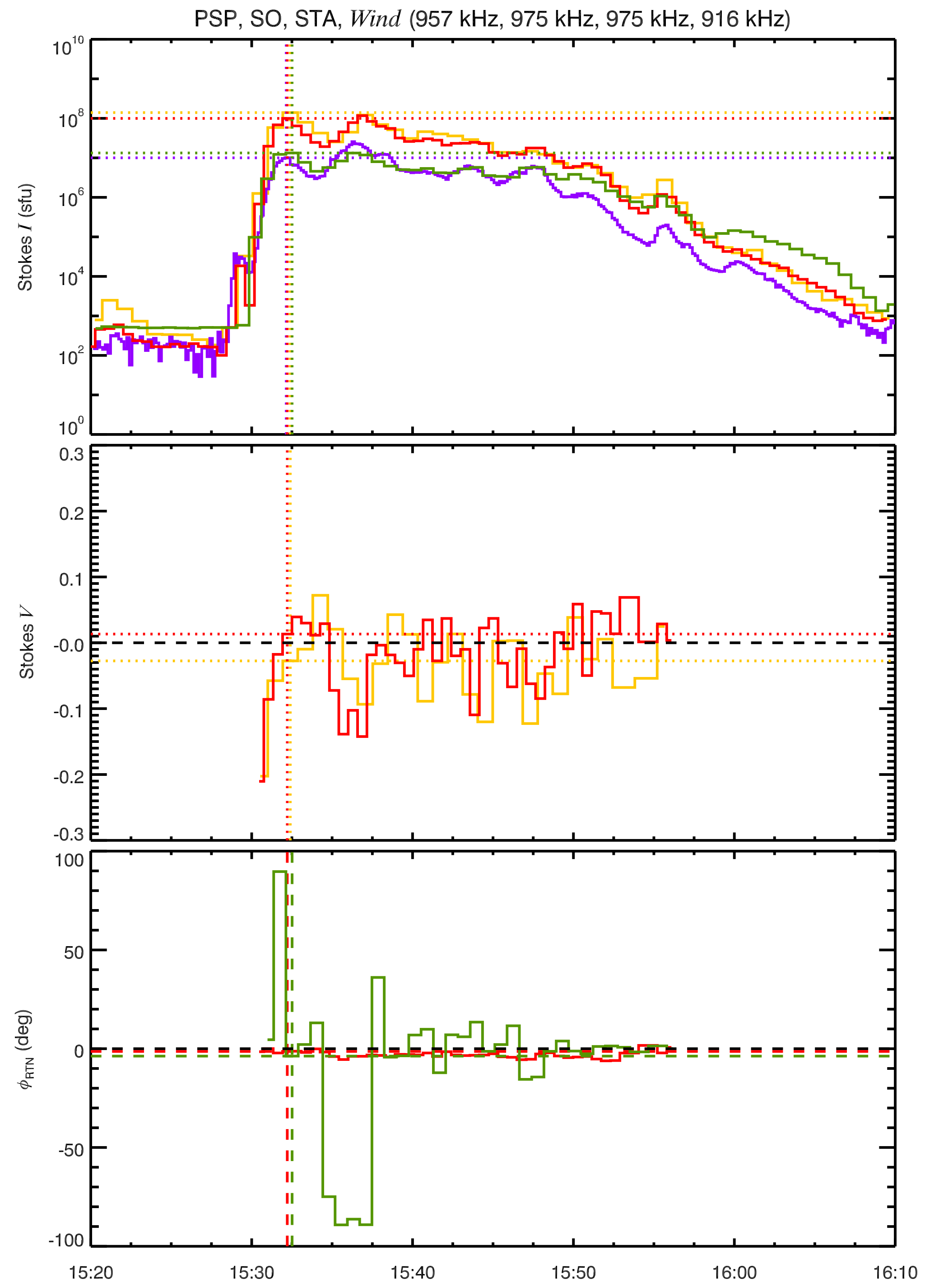
STEREO-A/Waves: 2021/10/28 15:00 - 2021/10/28 21:05



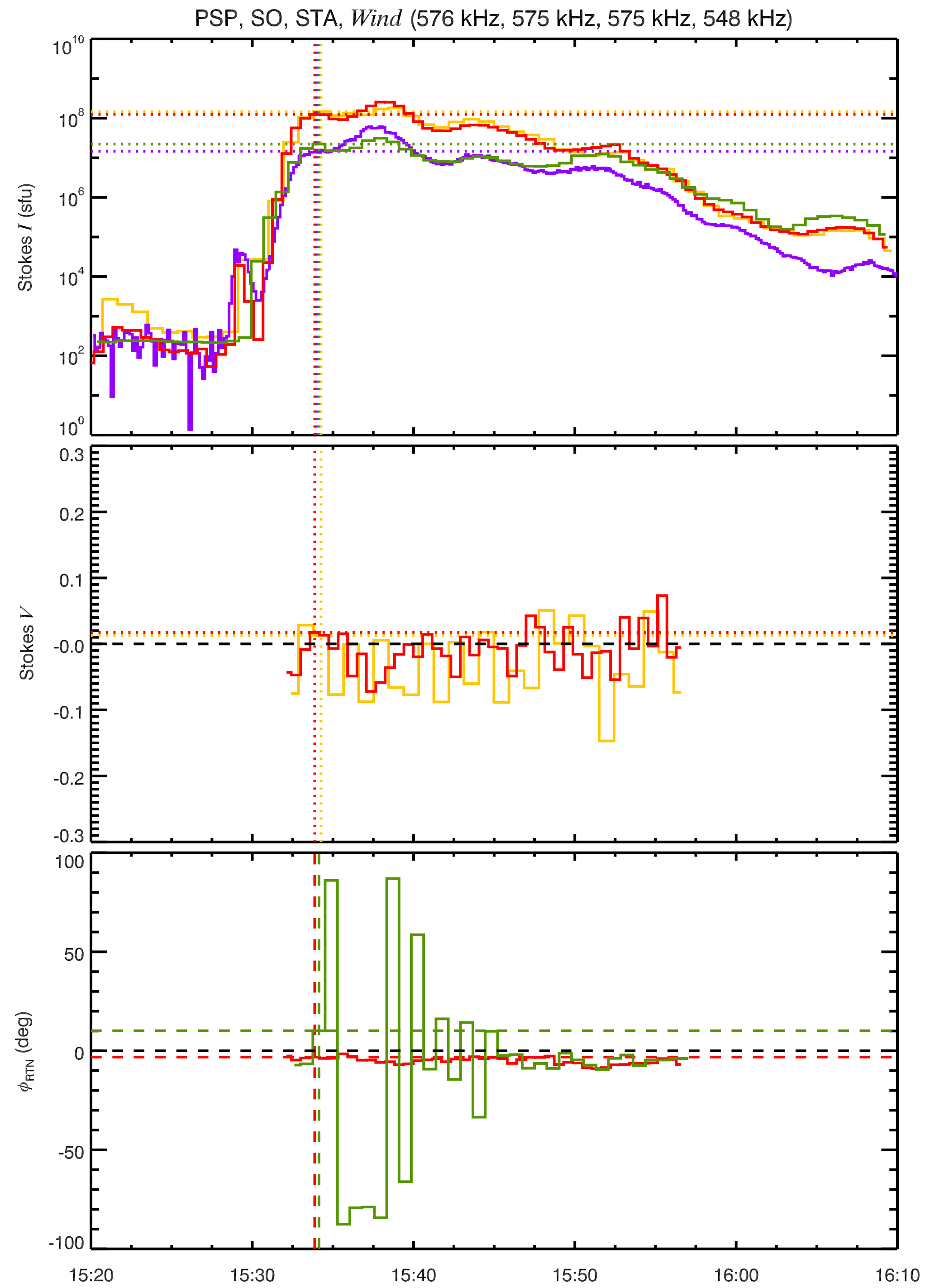
2021/10/28 15:00 - 2021/10/28 21:05



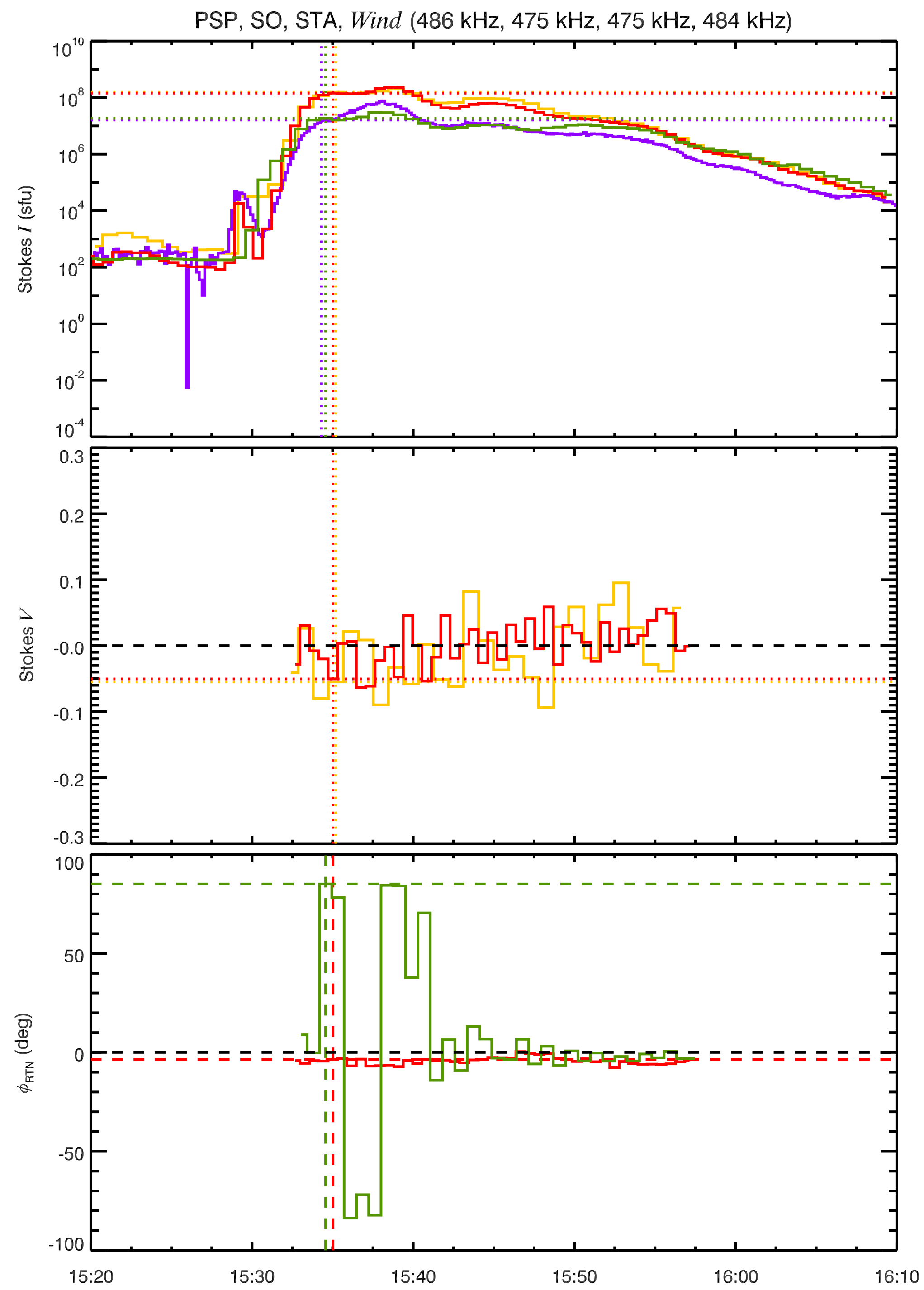
1,000 kHz



600 kHz



500 kHz



200 kHz

