RENU2 E-Fields

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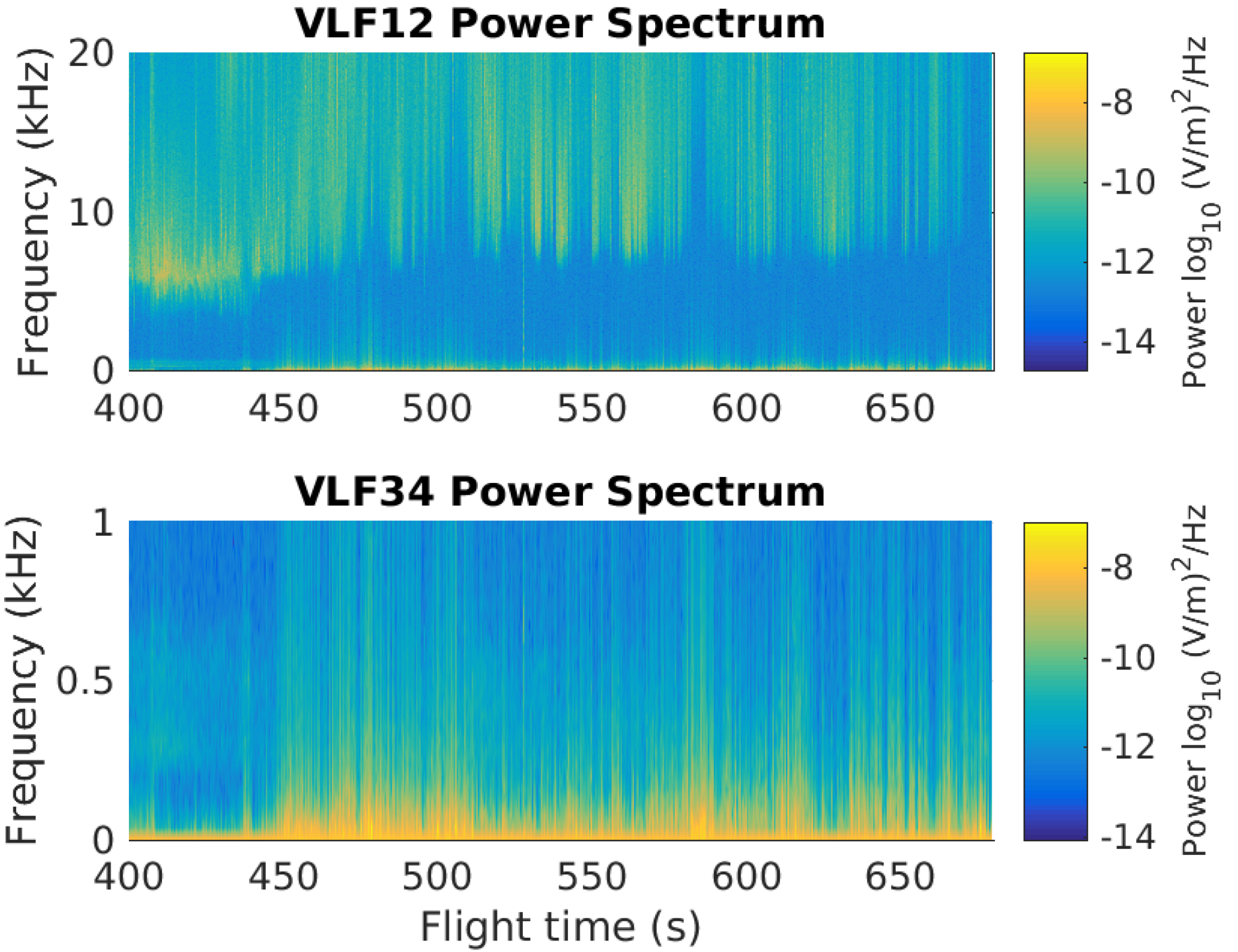
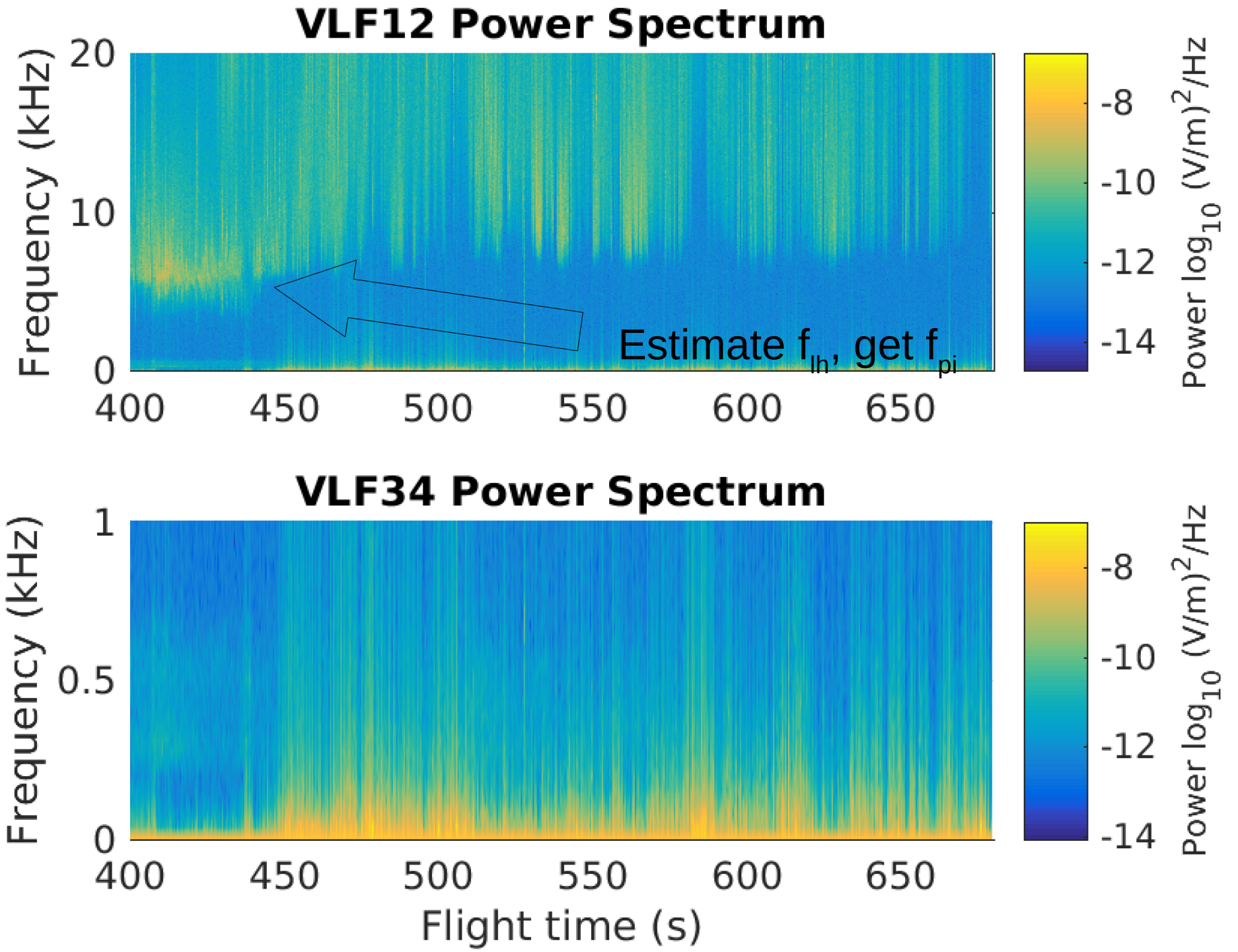

VLF12 Power Spectrum
Frequency (kHz)
20
10
0
400
450
500
550
600
650
-8
-10
-12
-14
Power log10 (V/m)2/Hz
VLF34 Power Spectrum
Frequency (kHz)
1
0.5
0
400
450
500
550
600
650
Flight time (s)
-8
-10
-12
-14
Power log10 (V/m)2/Hz


VLF12 Power Spectrum
Frequency (kHz)
20
10
0
400
450
500
550
600
650
Estimate f_{lh}, get f_{pi}
-8
-10
-12
-14
Power $\log_{10}$ $(V/m)^2/Hz$
VLF34 Power Spectrum
Frequency (kHz)
1
0.5
0
400
450
500
550
600
650
Flight time (s)
-8
-10
-12
-14
Power $\log_{10}$ $(V/m)^2/Hz$

Jim LaBelle's Idea: Estimate f_{LH} feature near 460 s

- f_{LH} ~ 5 kHz
- Svalbard lat/long: 77.87 N/20.9 E
- Alt. estimate: 600 km
- $|B_{total}(460\ s)|$ = 4.3e4 nT (0.43 G)
- f_{pi} ~ 7.8 kHz

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f_{pe} ~ 1.3 MHz

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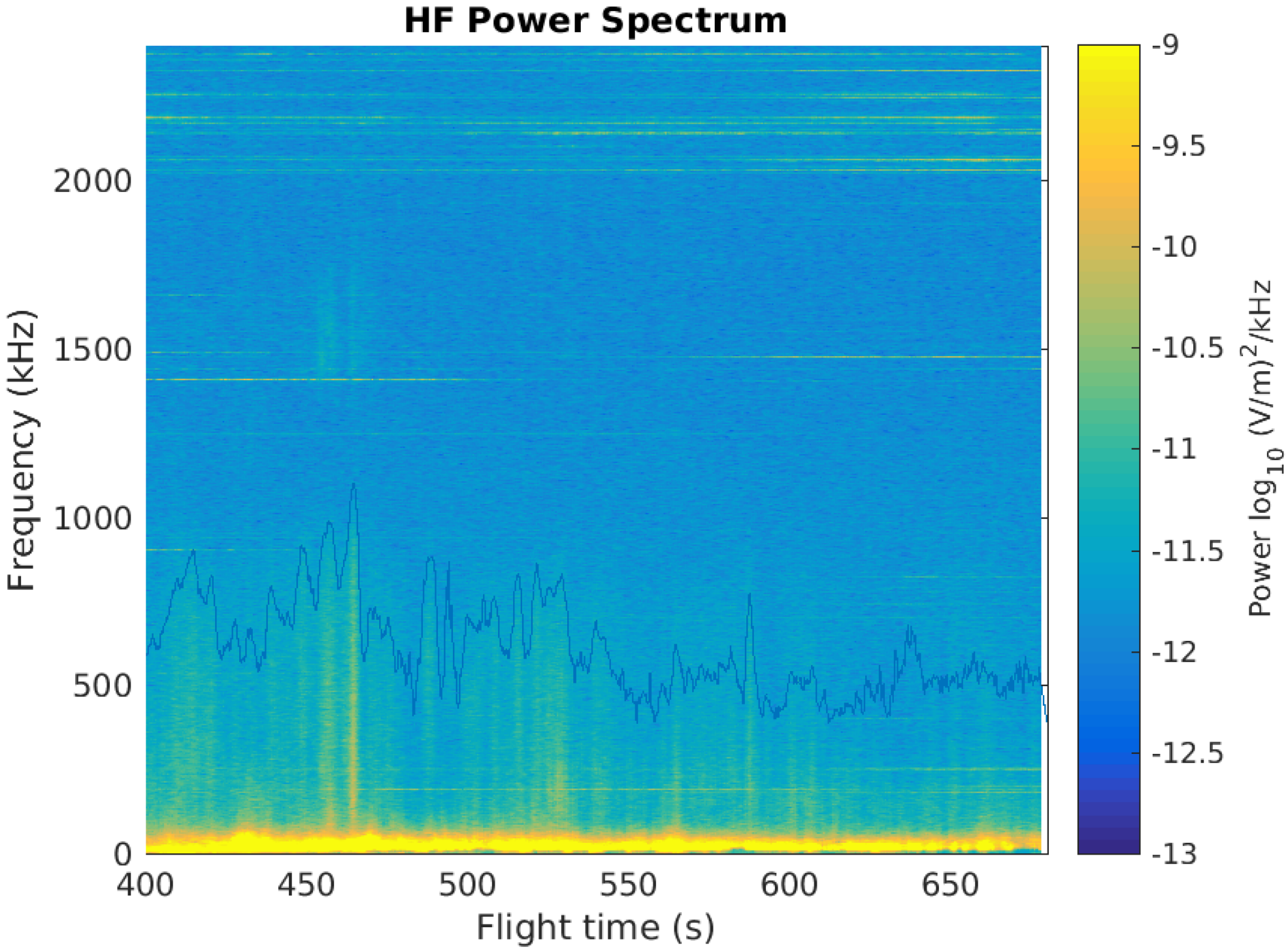
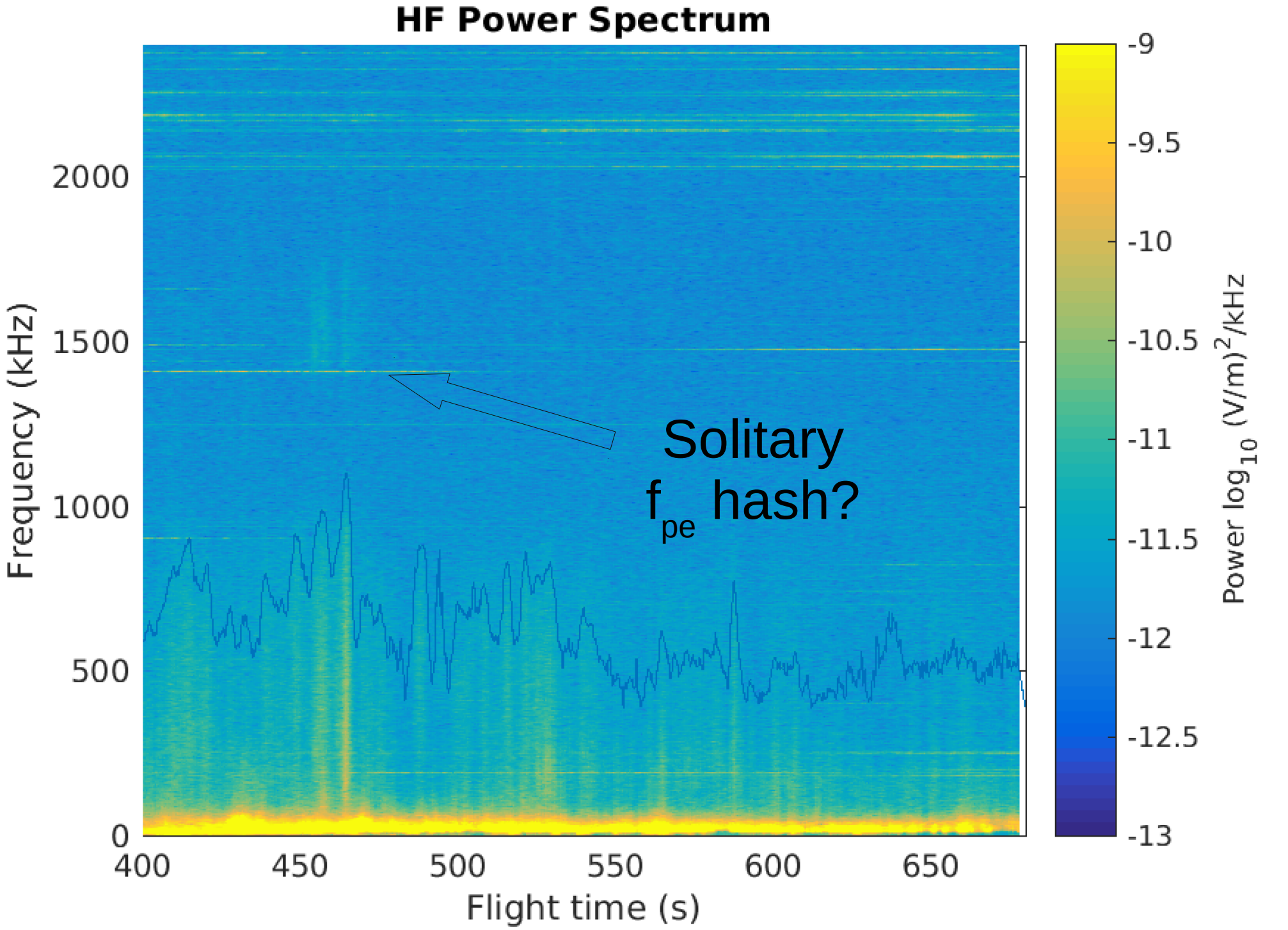
Hash appears at this frequency


HF Power Spectrum
Frequency (kHz)
2000
1500
1000
500
0
400
450
500
550
600
650
Flight time (s)
-9
-9.5
-10
-10.5
-11
-11.5
-12
-12.5
-13
Power log10 (V/m)2/kHz

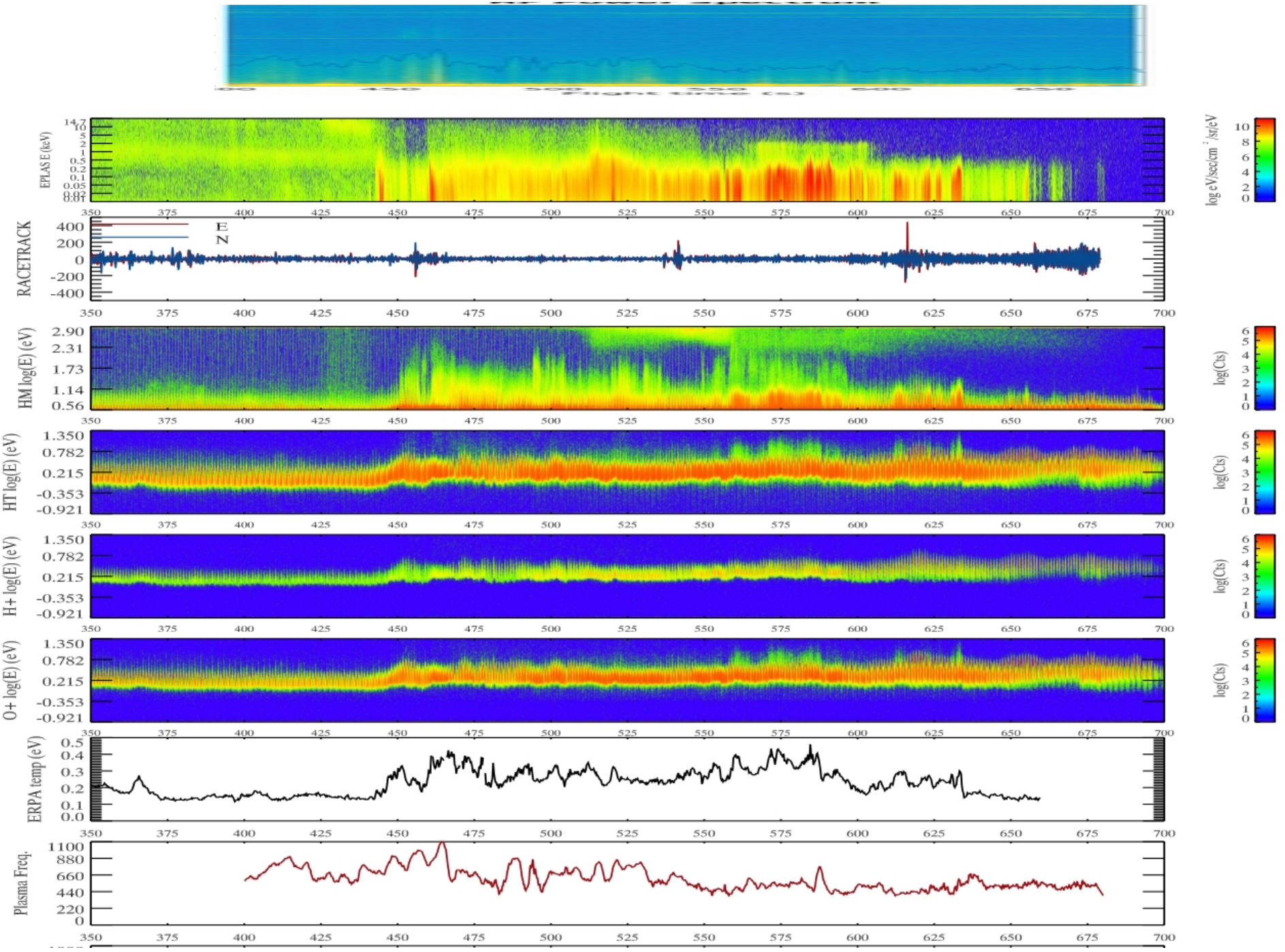

HF Power Spectrum
Frequency (kHz)
2000
1500
1000
500
0
400
450
500
550
600
650
Flight time (s)
Solitary
f pe hash?
-9
-9.5
-10
-10.5
-11
-11.5
-12
-12.5
-13
Power log10 (V/m)2/kHz

Ideas

- The f_{pi} hash
  - Temporally correlated with …
    - Beginning of PMAF?
    - EPLAS?
    - RACETRACK?
    - ERPA Temperature depression?
- Science question (from summary):

"… electron precipitation may be driven by Alfven waves. what is the connection between the stepped ion precipitation and these waves -- both signatures of reconnection?"

-->Do we have MLT data?


Flight time (s)
EPLASE (keV)
log eV/sec/cm⁻²/sr/eV
RACETRACK
E
N
HM log(E) (eV)
HT log(E) (eV)
H+ log(E) (eV)
O+ log(E) (eV)
log(Cts)
ERPA temp (eV)
Plasma Freq.

Issues

- Just got data
- Haven't cracked .RC1 files