PSDs and spectrograms

Tanner Prestegard 9/17/2015

PSDs

- Taking 1 hour of data in the middle of the night.
- Making PSDs with Welch's method.

YATES

July 10, 11:30pm MDT





RRDG

July 10, 11:30pm MDT

July 20, 11:30pm MDT



10²

July 10, 11:30pm MDT

July 20, 11:30pm MDT



111

10²

1 I I I

10¹

East

North

-Vertical

July 10, 11:30pm MDT

PSD of 800 station, GPS 1120541617 - 1120545217 10⁻⁶ East North -Vertical 10⁻¹⁰ 10⁻¹² ²H/₂(s/E) 10^{−14} 10⁻¹⁶ 10⁻¹⁸ 10^{-20} 1.1.1 10⁻² 10⁻⁴ 10⁻³ 10⁻¹ f (Hz) 10⁰ 10¹ 10²



July 10, 11:30pm MDT





July 10, 11:30pm MDT



Spectrograms

- Plots of 1 hour of data from July 20 starting at 11:30 pm MDT.
- Using 60 second time segments which are 50% overlapping, 1/60 Hz frequency resolution.

YATES

East channel







RRDG

East channel





East channel

300 station, GPS 1121405617 - 1121409217, channel HHE 5 -11 4.5 -12 4 -13 3.5 3 -14 + (OSH) ⁰¹ - 15 00 (́¤H) + 2 -16 1.5 1 -17 0.5 -18 500 1000 1500 2000 2500 3000 3500 Time (s)



East channel

800 station, GPS 1121405617 - 1121409217, channel HHE





East channel





East channel



