

# PEM RF Injections

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Figure : RF Amp and signal generator

- ▶ amp setup in the woodshop
- ▶ coax cable goes outside to simple dipole antennas
- ▶ three antennas of approx. length of 15m, 5m, 1.5m
- ▶ antennas are strung from water reservoir to stake in ground 20m away

# 9MHz

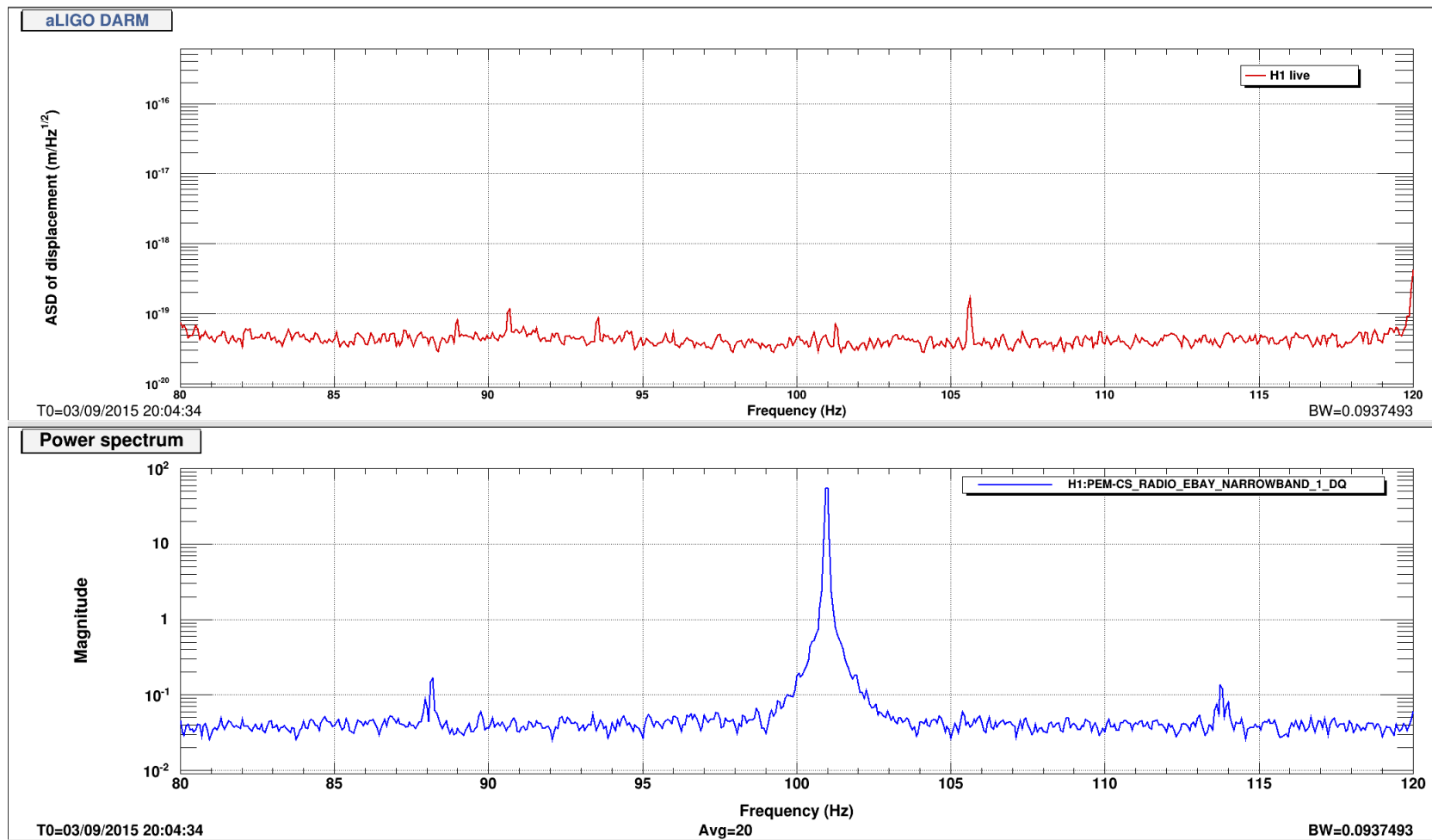


Figure : injection at 9.100340MHz

# 9MHz

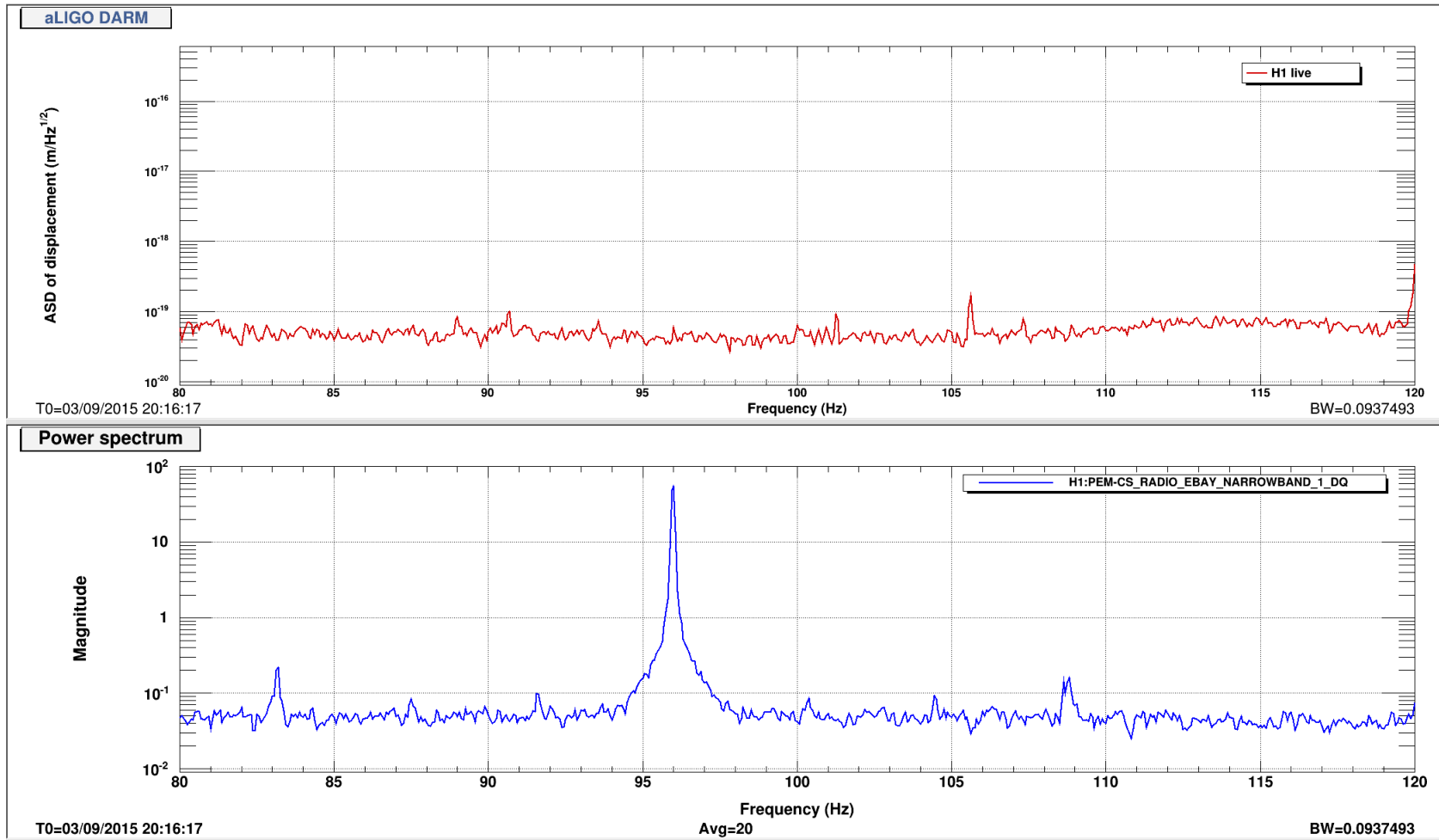
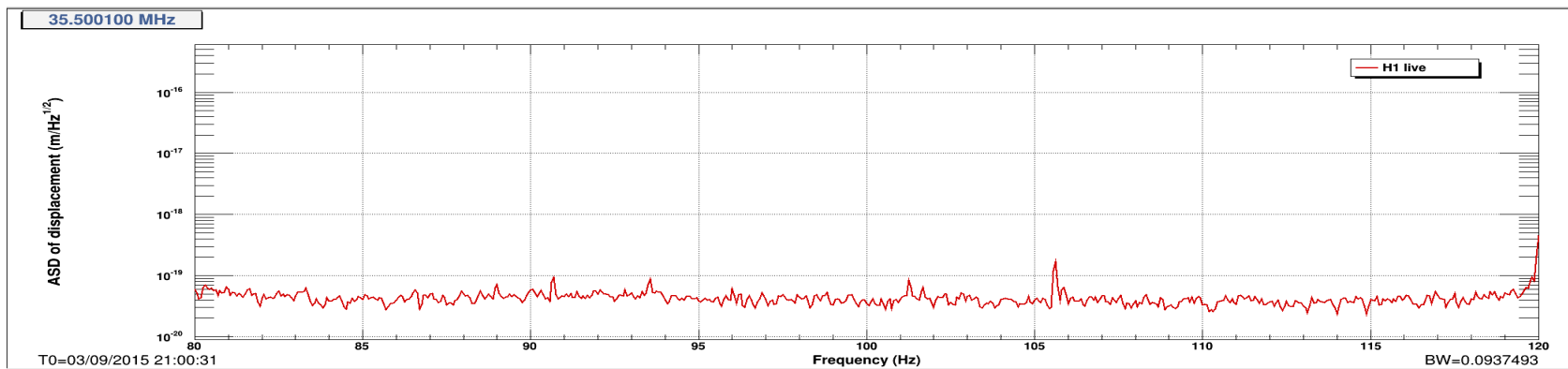
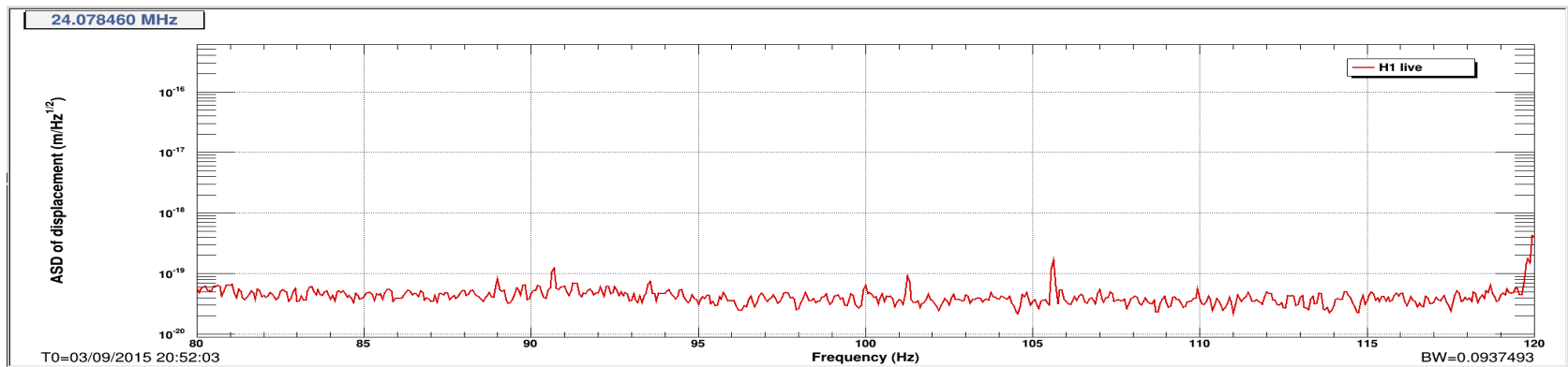
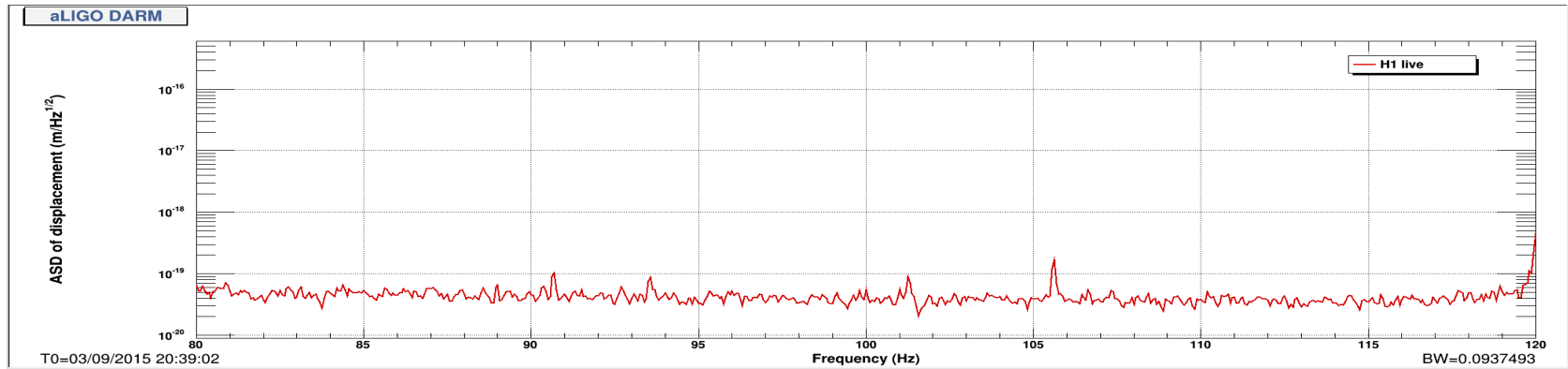


Figure : injection at 9.100335MHz

# 21.5MHz, 24MHz, 35.5MHz



# 45MHz - finally saw something in DARM

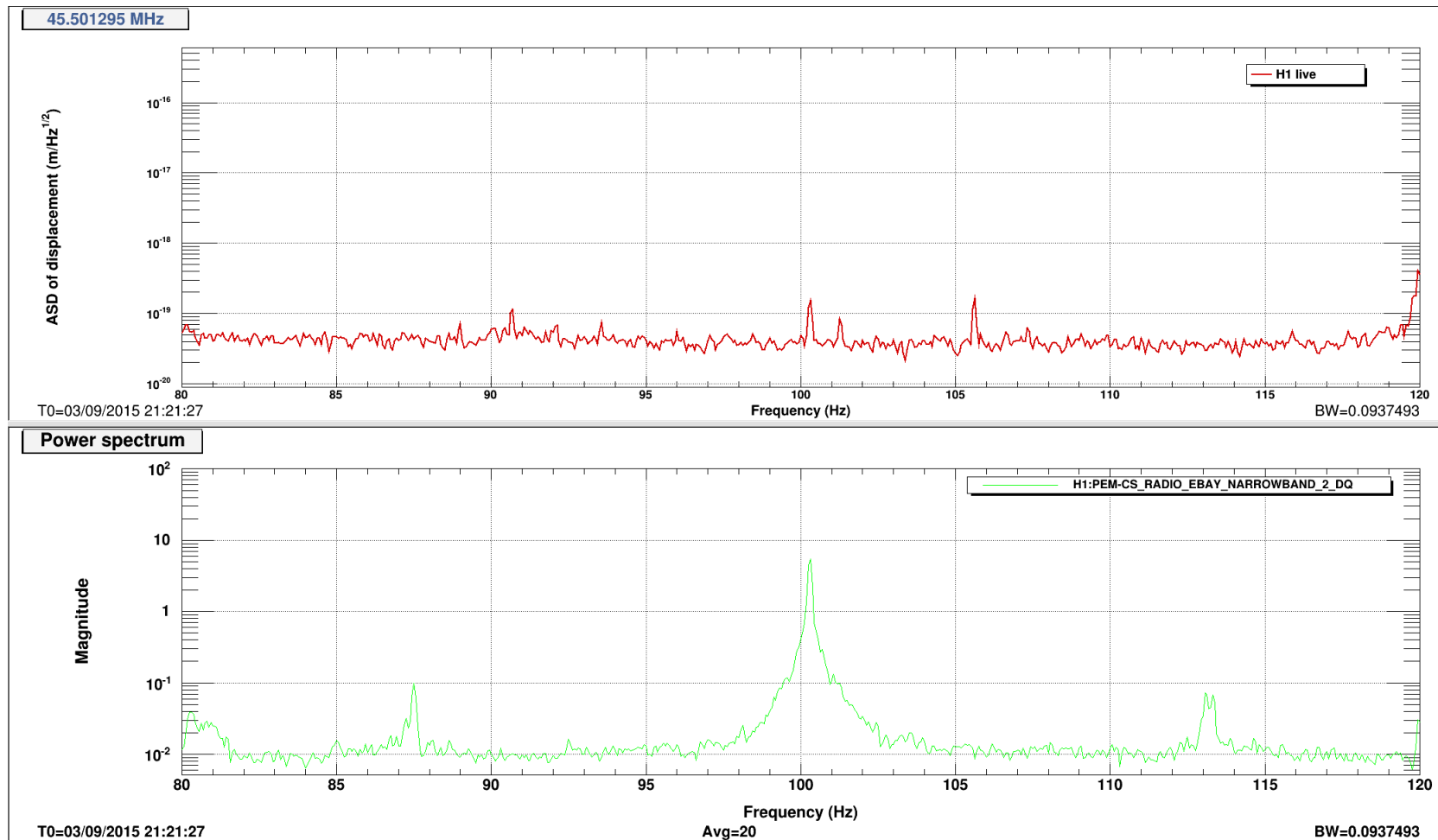


Figure : injection at 45.501295MHz

# 45MHz - finally saw something in DARM

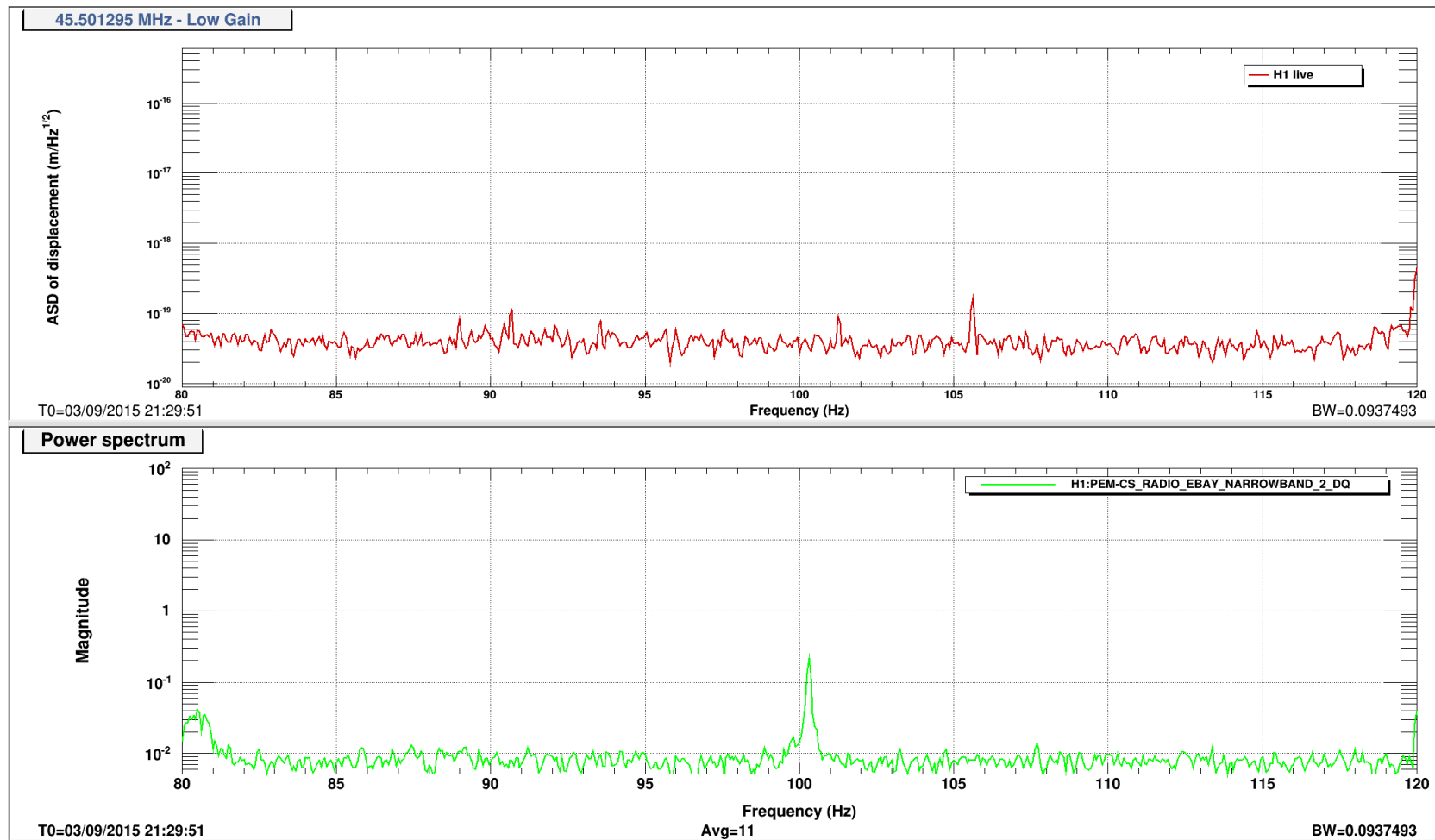


Figure : 45.501295MHz low gain - DARM peak disappears

# 45MHz - finally saw something in DARM

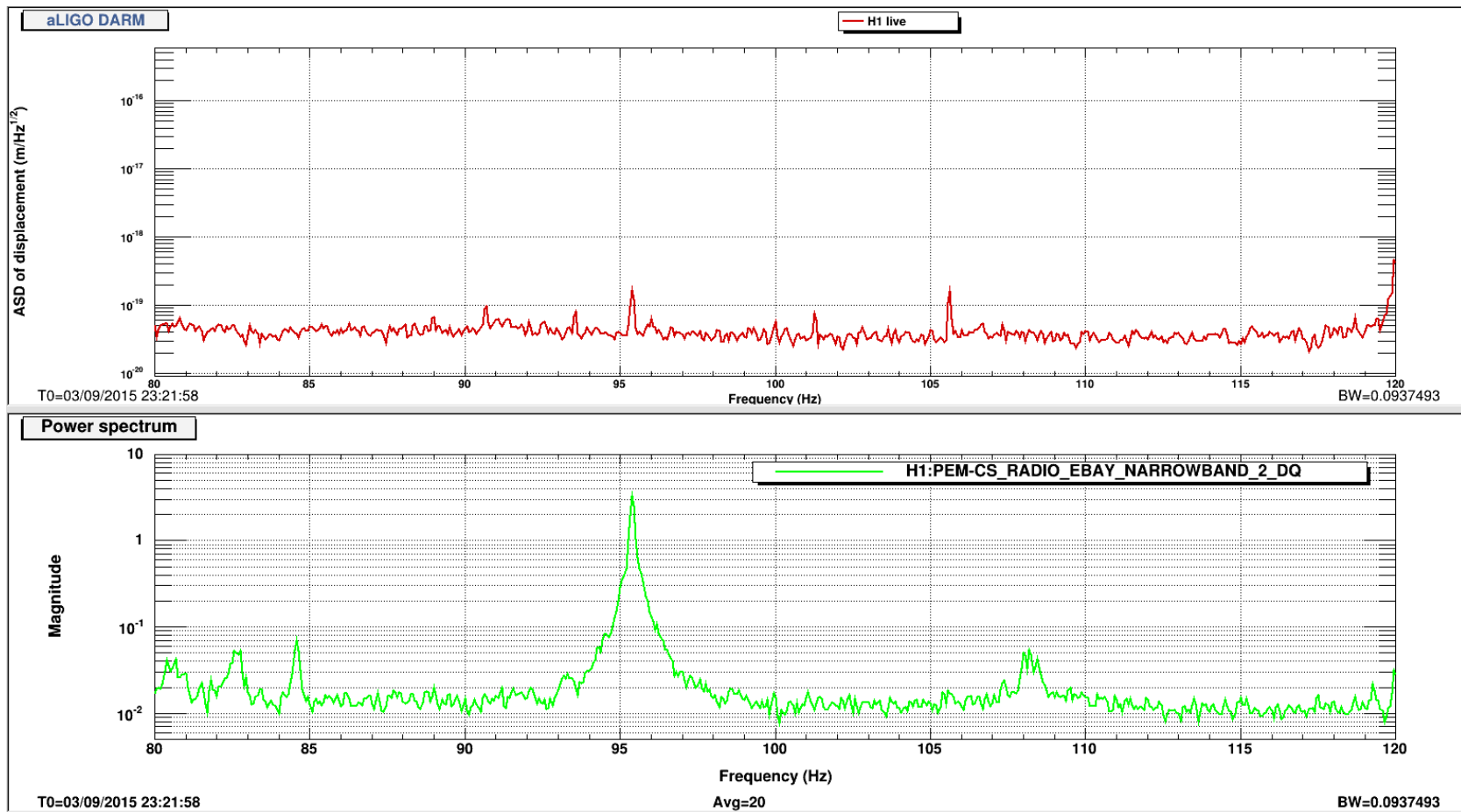
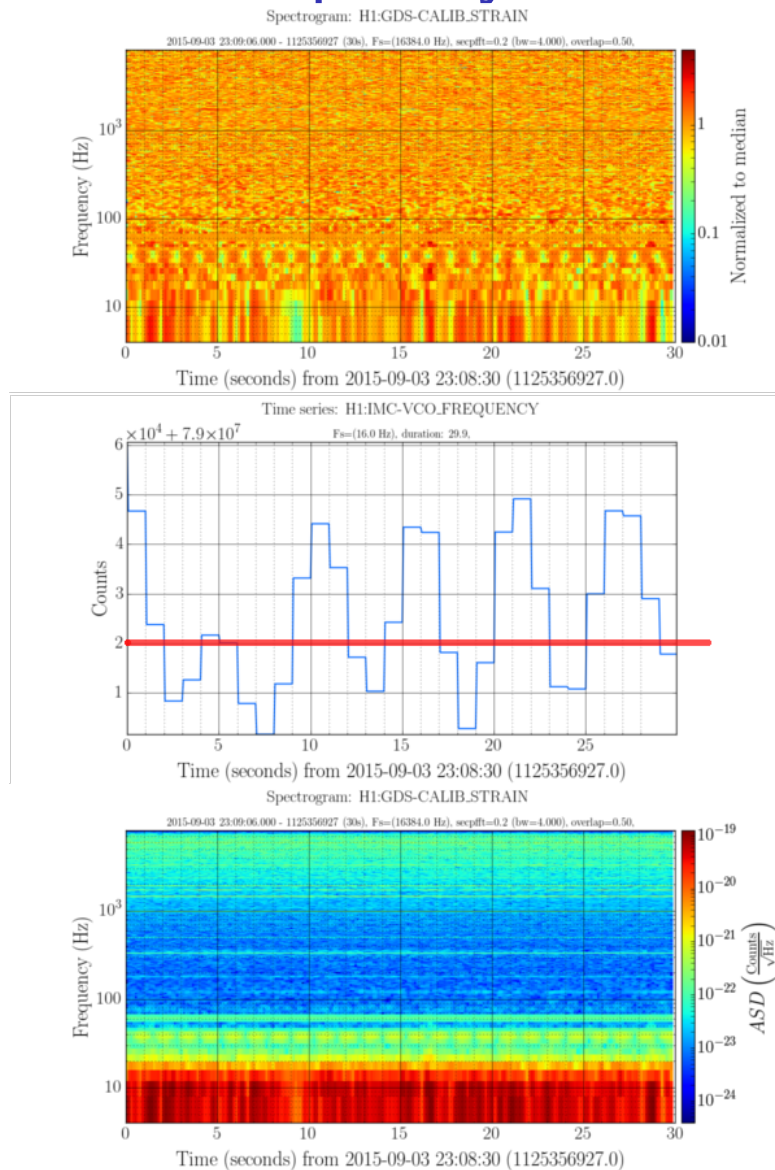


Figure : 45.501290MHz - DARM peak moves



# FSS VCO frequency



- ▶ Injection at 79.020100MHz
- ▶ VCO frequency trend shown
- ▶ Would expect to see something when VCO frequency crosses injection
- ▶ Nothing found so far, could use more investigation.

Figure : injection at 79.020100MHz from 4:00PM-4:15PM PDT

# Timeline

Sept 3, 2015, all times in UTC

- ▶ 17:30 9MHz injection started
- ▶ 20:20 21.5 MHz
- ▶ 20:47 24 MHz
- ▶ 20:56 35.5 MHz
- ▶ 21:06 45.501195 MHz
- ▶ 21:14 45.501295 MHz
- ▶ 21:26 gain turned down
- ▶ 21:35 gain turned back up, shorter antenna used
- ▶ 21:45 71.000101 MHz
- ▶ 22:02 79.020000 MHz
- ▶ 22:52 8.000100 MHz
- ▶ 23:00 79.020100 MHz
- ▶ 23:15 45.501290 MHz