

aLOG report @LLO

2015/8/25 Tuesday @DetChar meeting, Yuzurihara

o I read Logbook of LIGO Livingston and picked up interesting topics about detector characterization.

<https://alog.ligo-la.caltech.edu/aLOG/index.php>

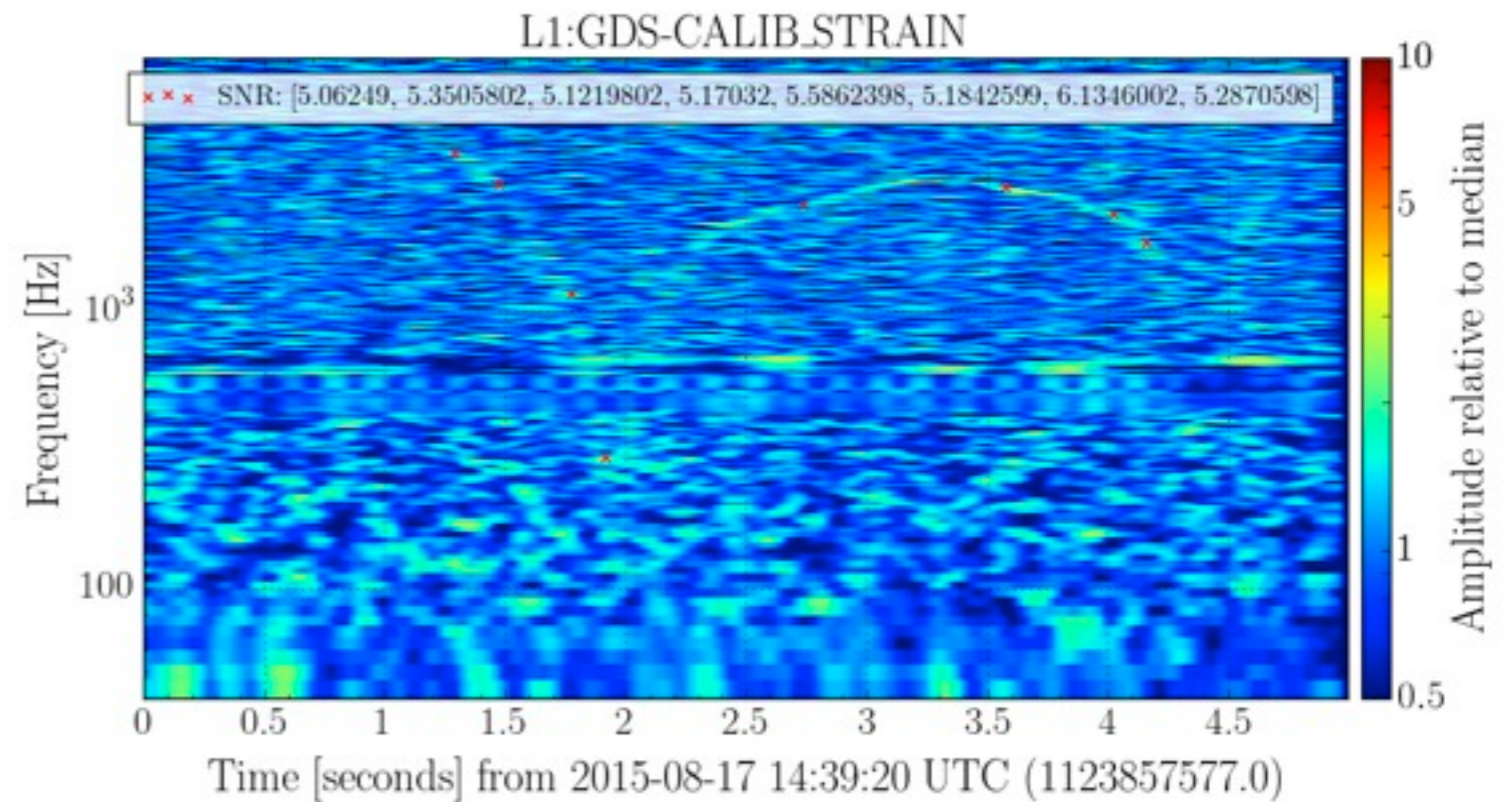
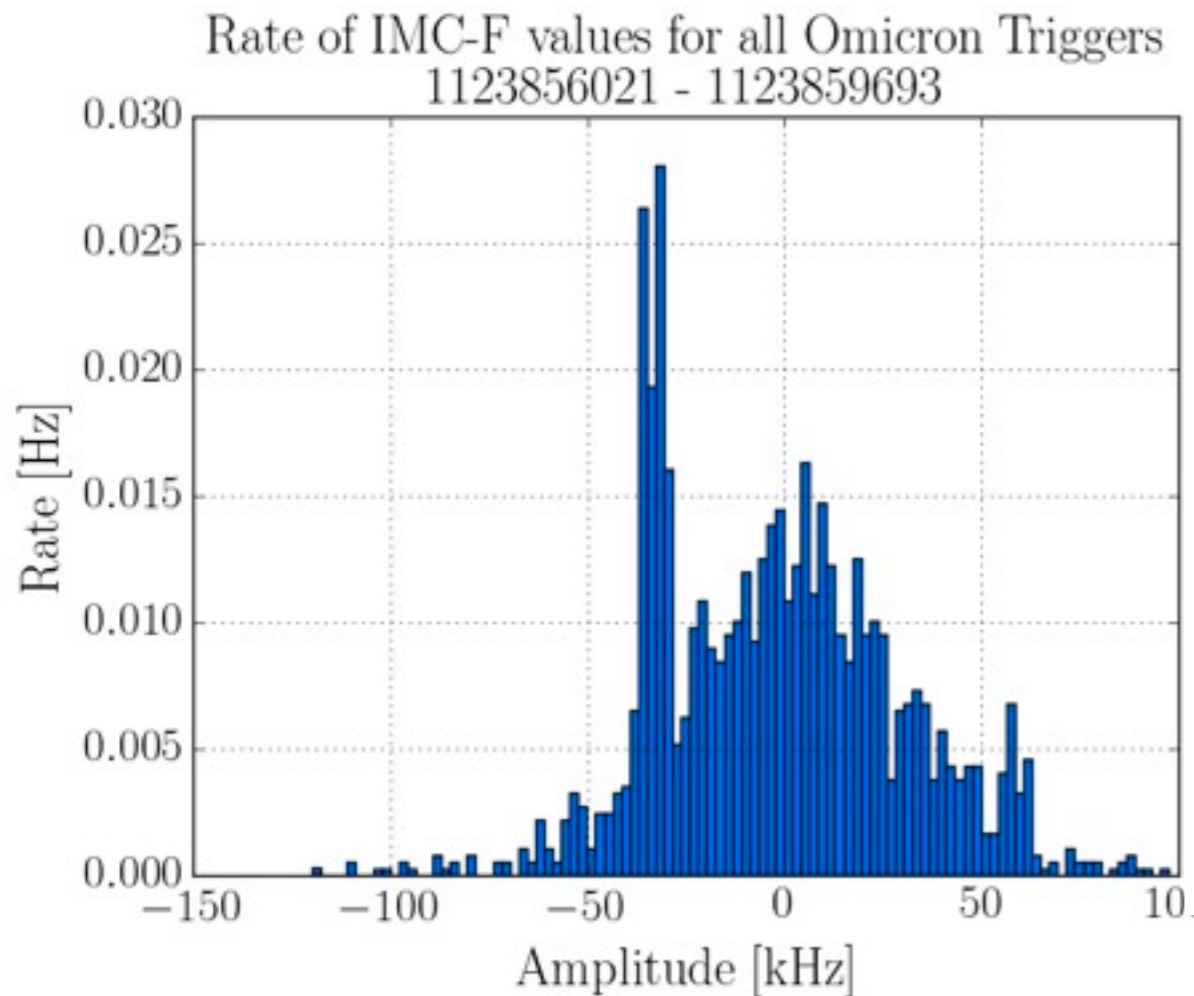
o Today's topic

- whistle glitches at LLO
- DQ shift
- 135Hz feature

Evidence of weak whistles in DARM from Monday's Analysis Ready Time

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19815>

o They ran some codes which looks at the rate of whistle glitches according to omicron and finds their corresponding value in IMC-F.



DQ Shift : Monday 15:00 UTC - Wednesday 23:59

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19832>

The full report can be found on the [detchar wiki](#)

Highlights:

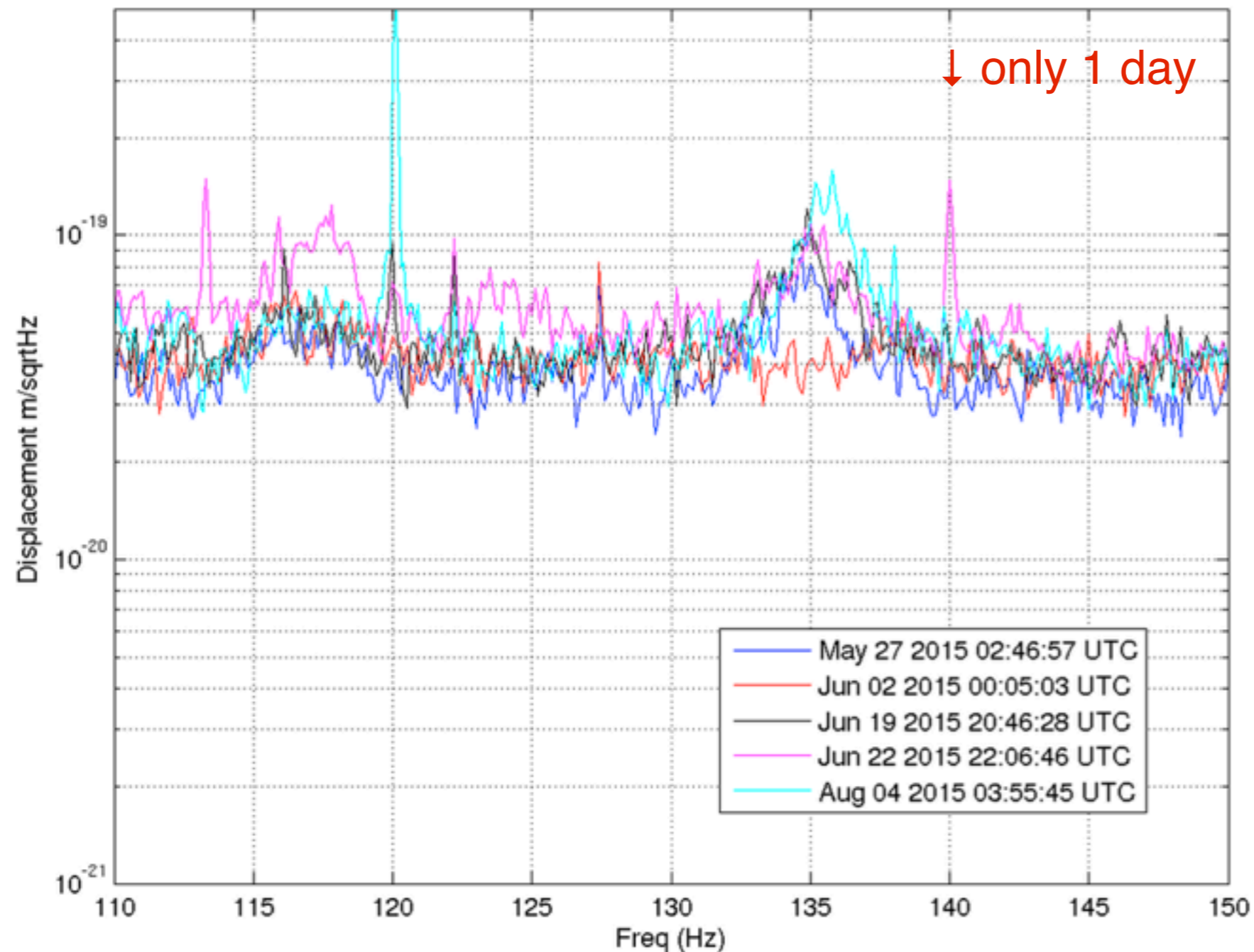
- Duty Cycle: 2.36% (4849 s)
- The longest analysis ready lock was at the start of the run, where the range started at 50 Mpc and climbed to 60 Mpc (looking at GDS).
- Low frequency part of the spectrum is much higher than it has been. This might be why the glitch rate is quite low.
- Evidence of whistles in the Monday lock which caused low SNR omicron triggers (19815), but can't find anything in the locks since. Need a longer lock to really say for sure though. Commissioners removed a band pass filter that had been previously installed by Pat/Steffen on Tuesday so next shifter needs to look for this.

135 Hz feature in DARM

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19873>

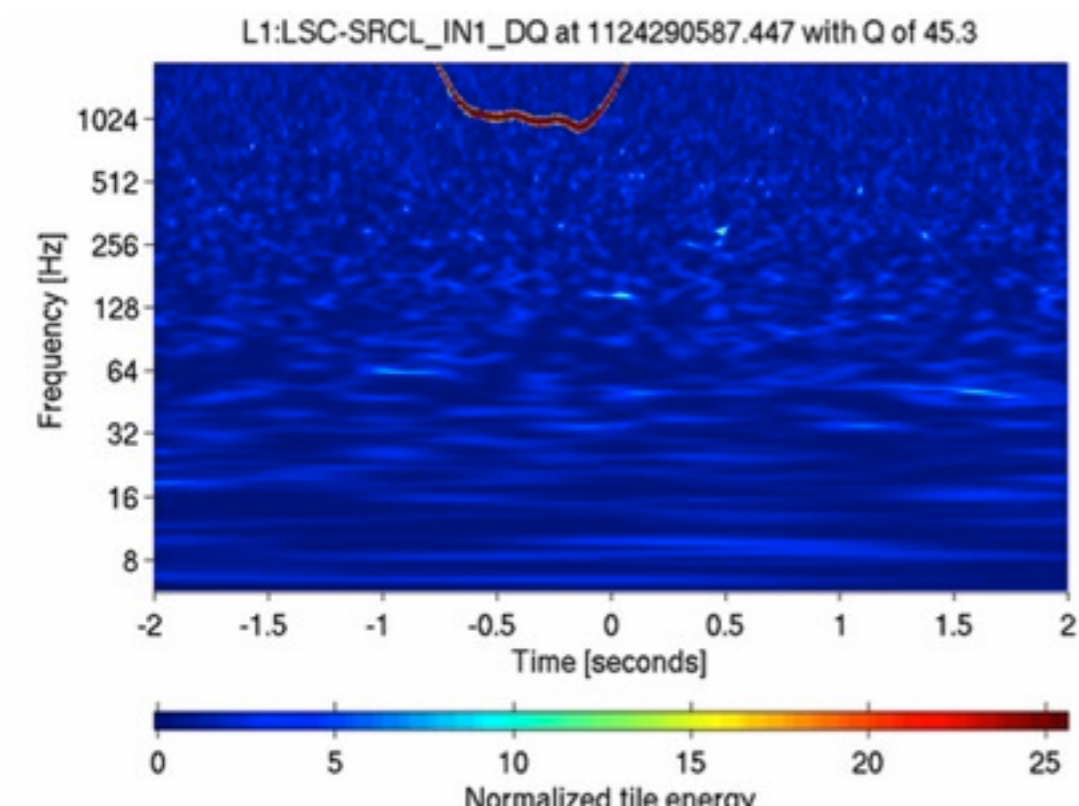
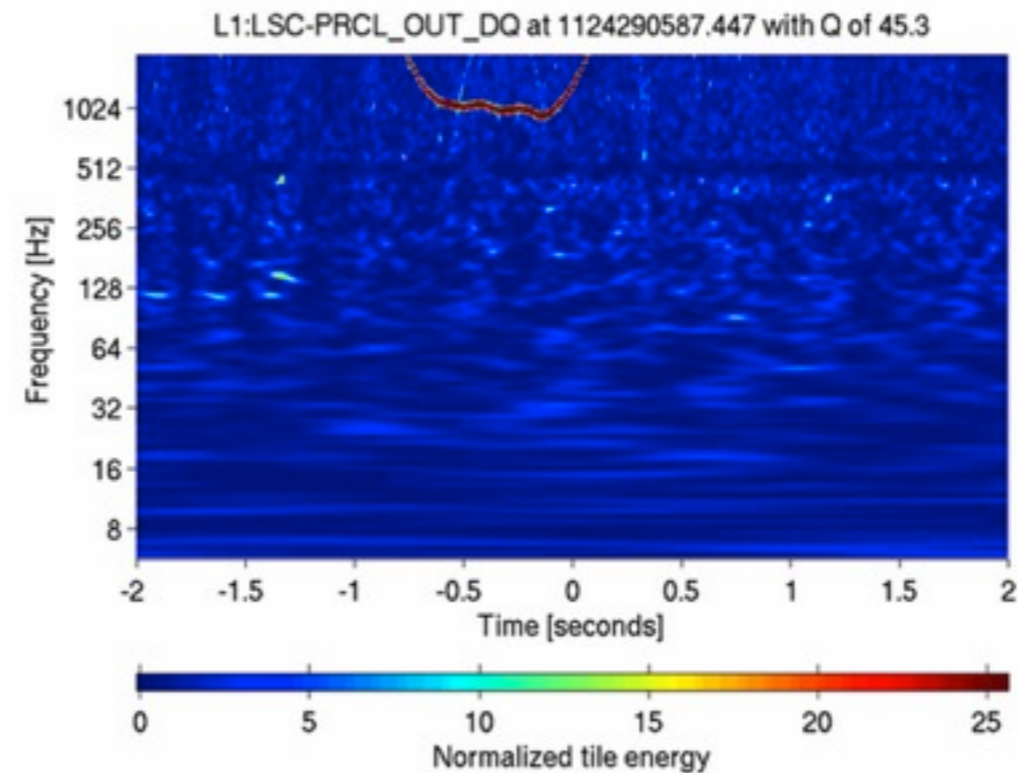
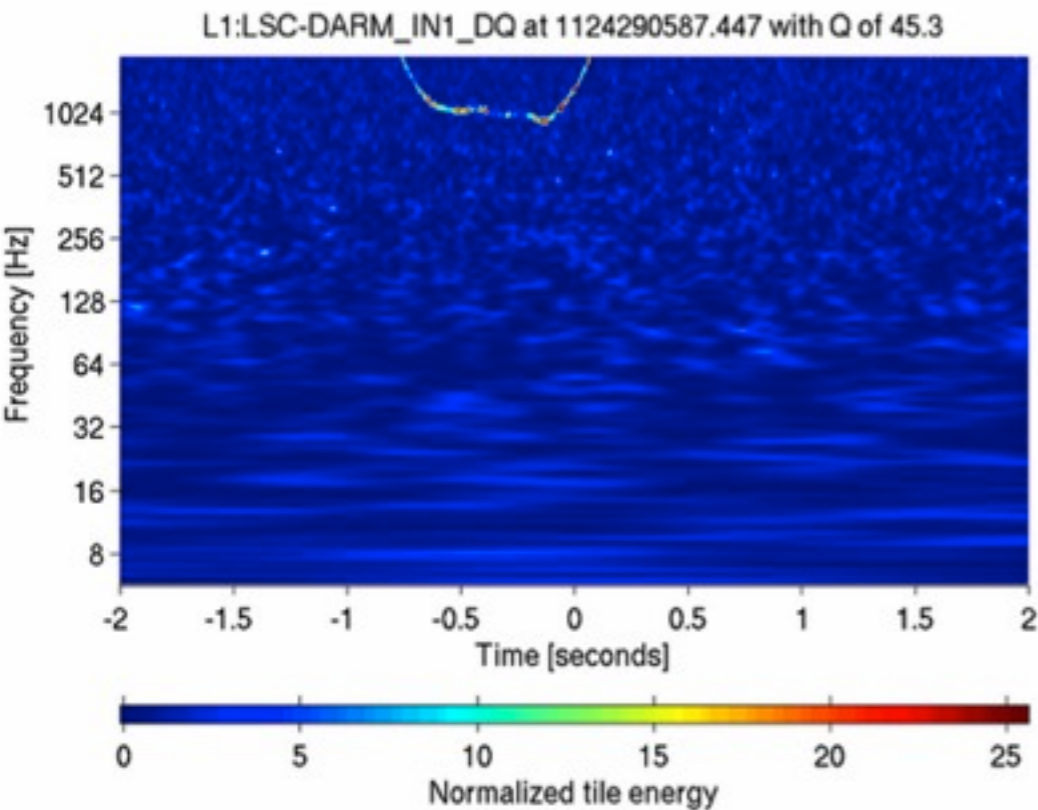
- o Currently a relatively broad (~ 5 Hz) feature around 135 Hz in DARM is seen.
- o Study to take correlation is interesting?

↓ only August



RF beats in yesterday's lock (slower and witnessed by SRCL and PRCL)

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19915>



- o 5-hour lock(22 August 2015) had a relatively low glitch rate.
- o hveto found to be coincidence with these three channels.
- o Omega scans show these T-F figures.

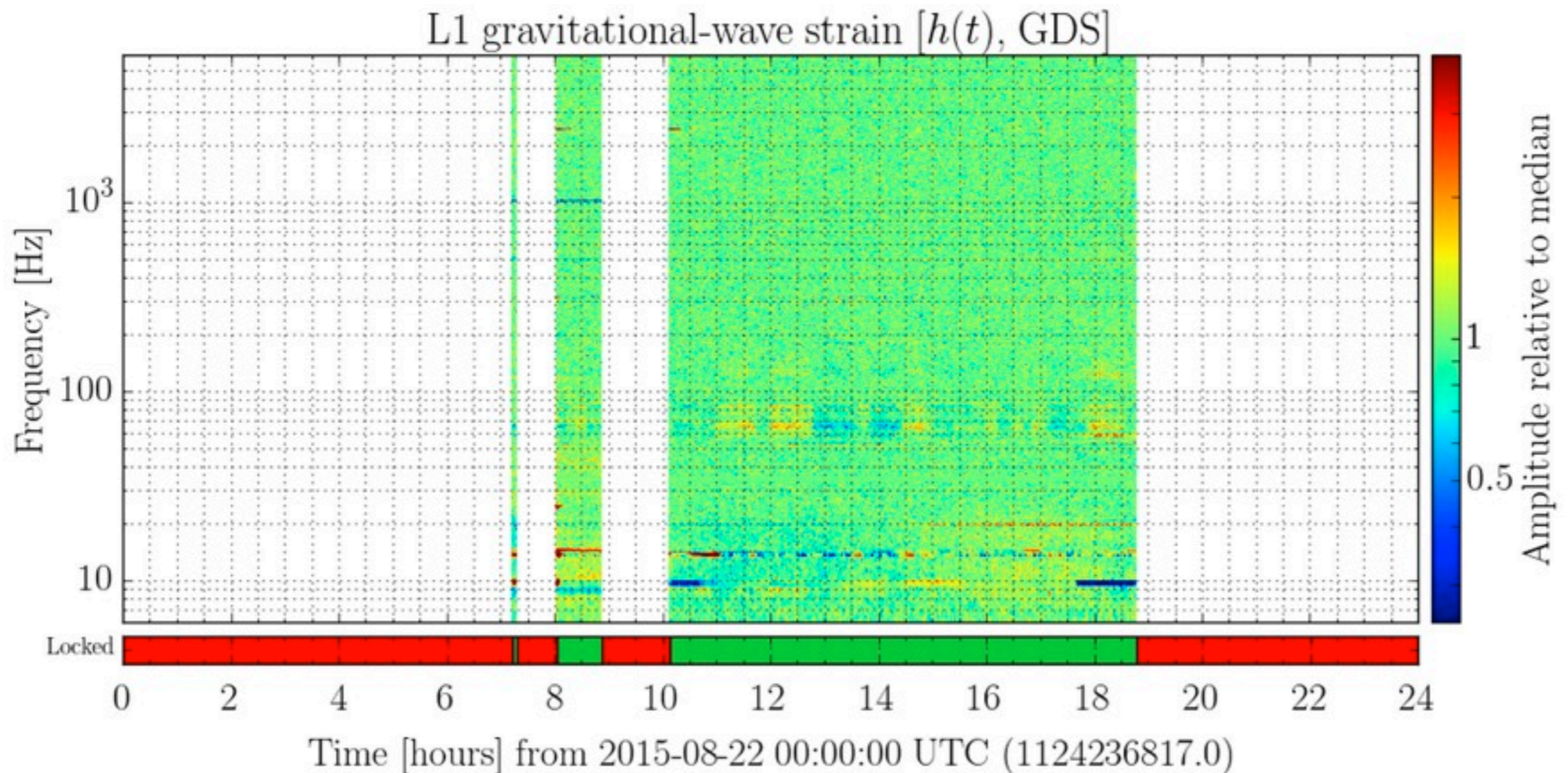
SRCL : Signal Recycling Cavity Length
PRCL : Power Recycling Cavity Length

DQ shift report for August 20th - 22nd

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19956>

This 3 day stretch included 3 long lock stretches with a 33% duty cycle. Inspiral ranges throughout the 3 locks were hovering at the 70-80 Mpc level.

- PSD non-stationarity in the 65 - 100 Hz region is visible in the normalized spectrograms.



DQ shift report for August 20th - 22nd

<https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=19956>

This 3 day stretch included 3 long lock stretches with a 33% duty cycle. Inspiral ranges throughout the 3 locks were hovering at the 70-80 Mpc level.

- The 135 Hz line that Shivaraj and Anamaria reported in [alog 19865](#) was visible on August 20th and 21st, but disappeared on the 22nd (see attachment 2 for before and after spectra)

