~100 Hz Wandering lines

Wandering line at 100 Hz

H1 gravitational-wave strain $[h(t), \mathrm{GDS}]$
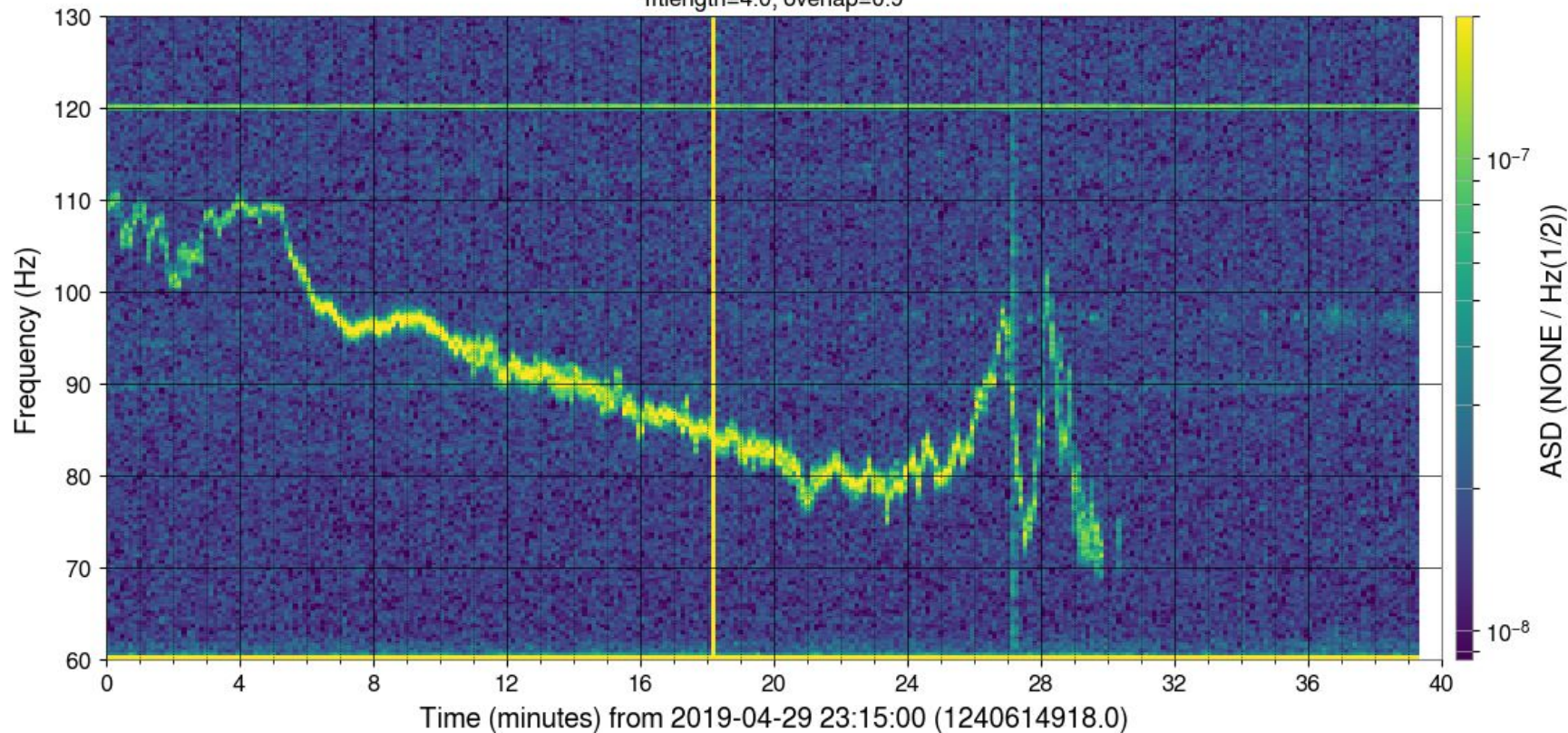
Time [hours] from 2019-04-29 00:00:00 UTC (1240531218.0)
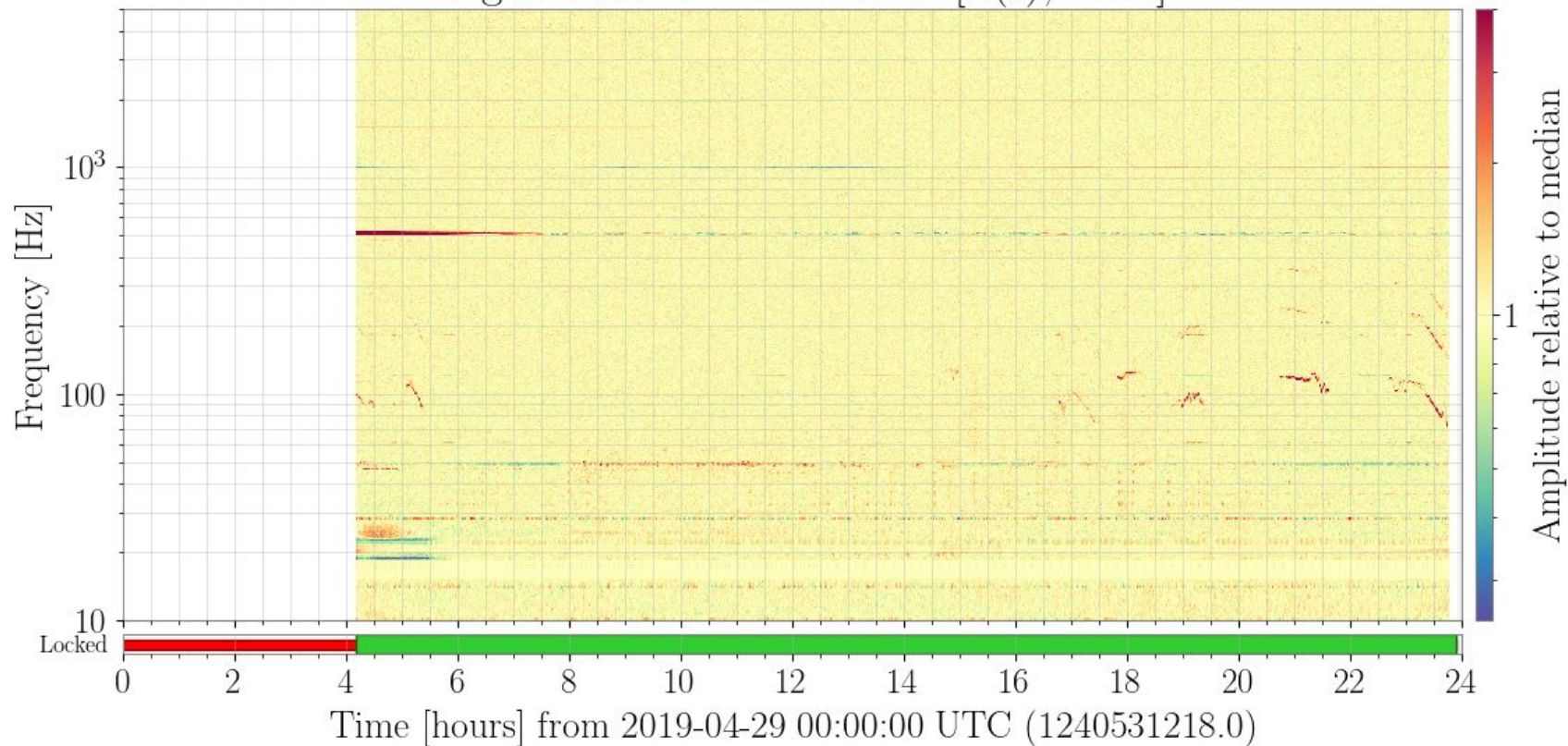
Zoomed in view at one such time

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
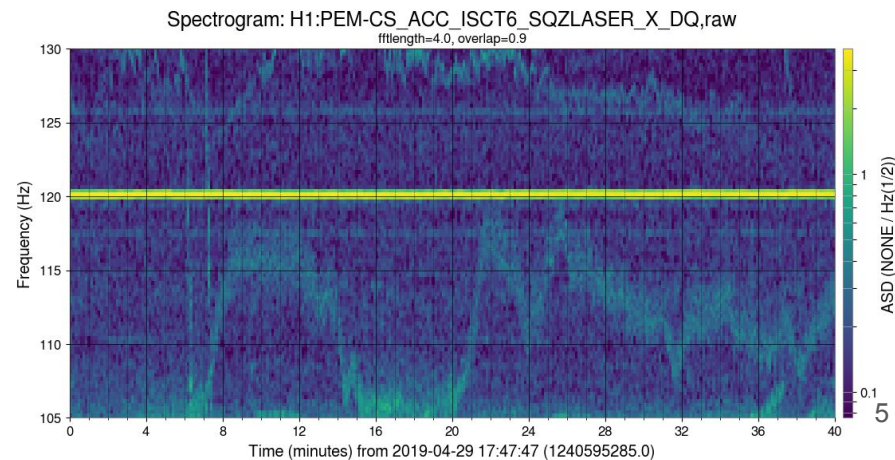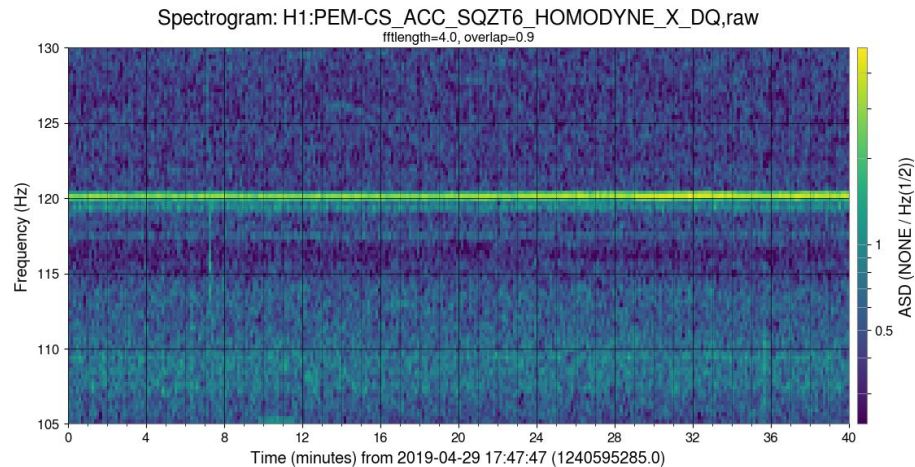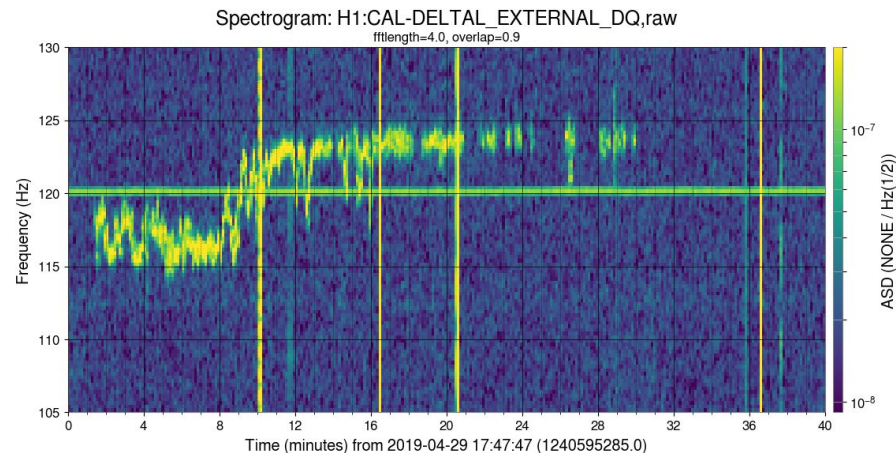fftlength=4.0, overlap=0.9
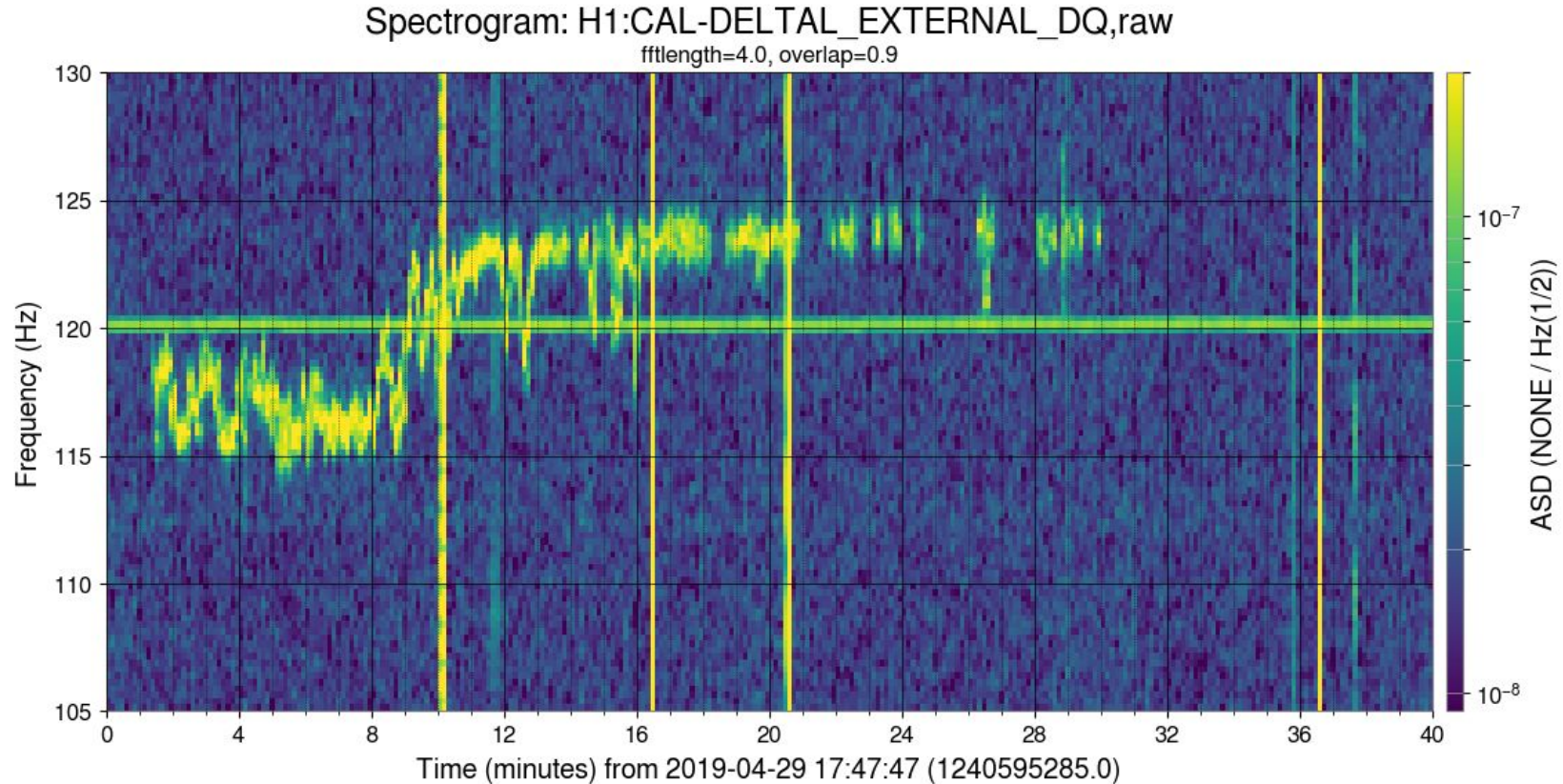
Zoomed in view at a different time

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Time (minutes) from 2019-04-29 23:15:00 (1240614918.0)

Time 1: Squeezer table accelerometers: Nothing coherent, although the ISCT6 accelerometer is noise

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_ACC_SQZT6_HOMODYNE_X_DQ,raw
fftlength=4.0, overlap=0.9

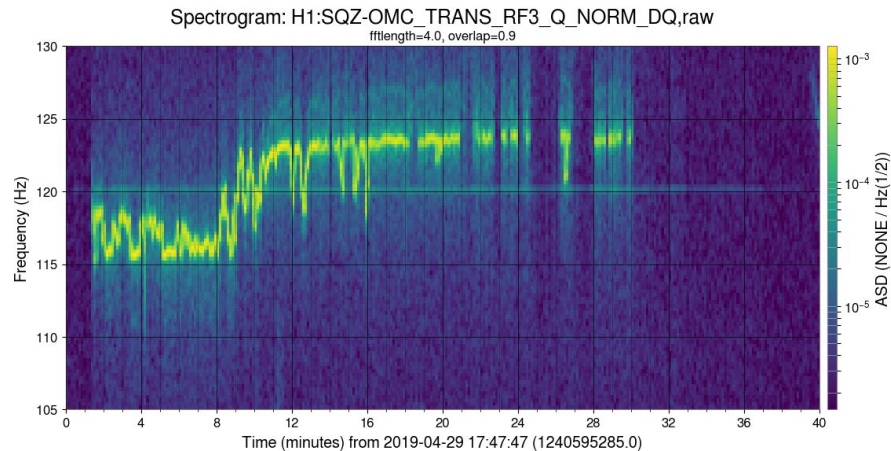Spectrogram: H1:PEM-CS_ACC_ISCT6_SQZLASER_X_DQ,raw
fftlength=4.0, overlap=0.9

Time 1: SQZ OMC Channel previously suggested in lho alog 48772 is clearly coherent with darm

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
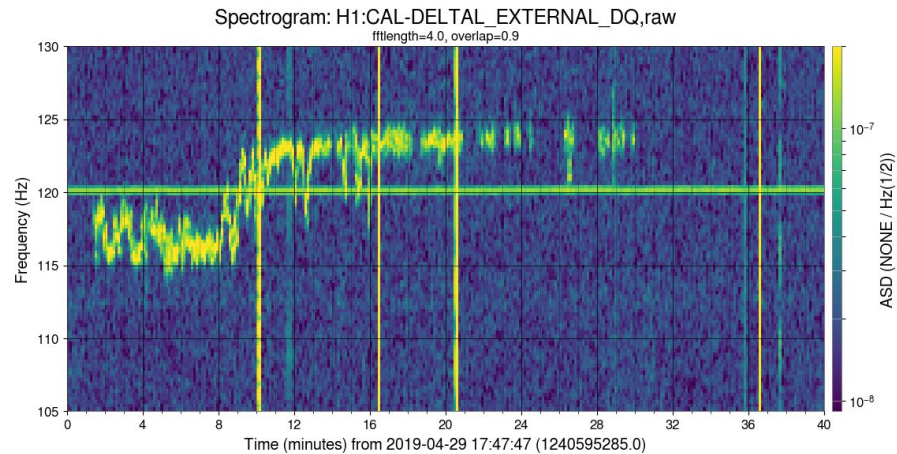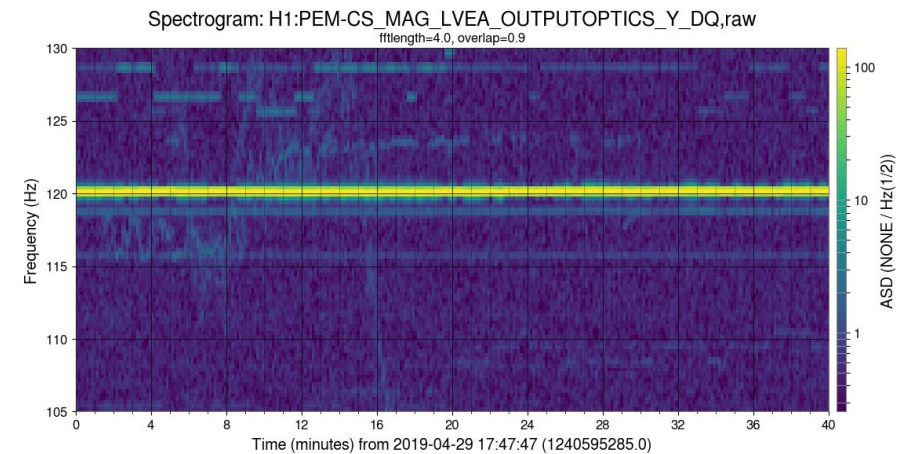fftlength=4.0, overlap=0.9

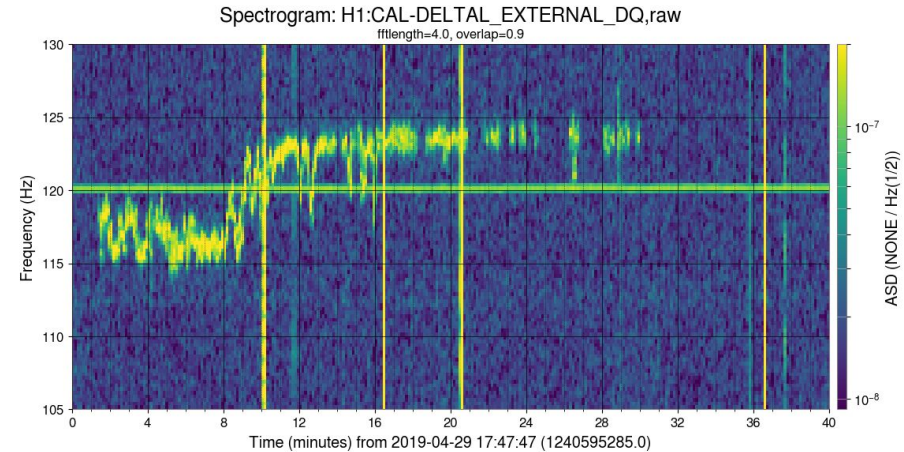Spectrogram: H1:SQZ-OMC_TRANS_RF3_Q_NORM_DQ,raw
fftlength=4.0, overlap=0.9

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Time 1: Can be seen faintly in the outputoptics magnetometer.

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_X_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_QUAD_SUM_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_Y_DQ,raw
fftlength=4.0, overlap=0.9

Time 2: Again SQZ OMC Channel previously is clearly coherent with darm

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:SQZ-OMC_TRANS_RF3_Q_NORM_DQ,raw
fftlength=4.0, overlap=0.9
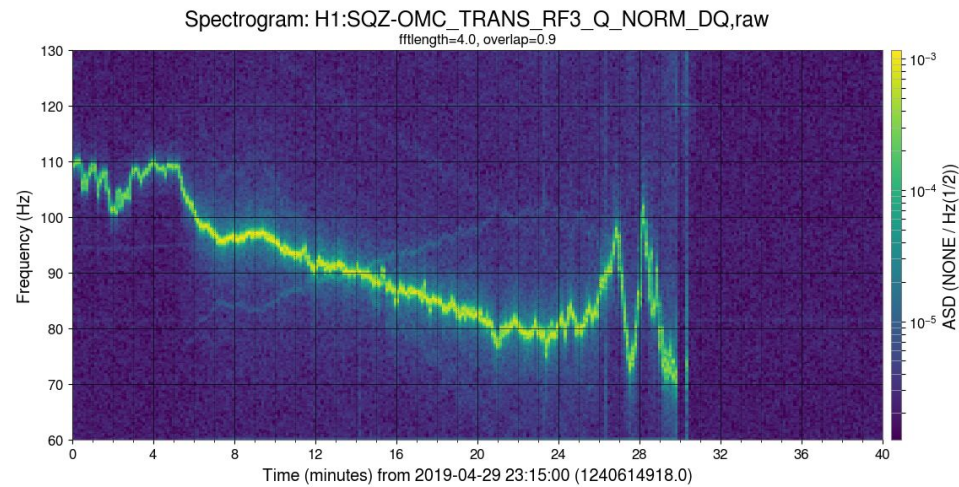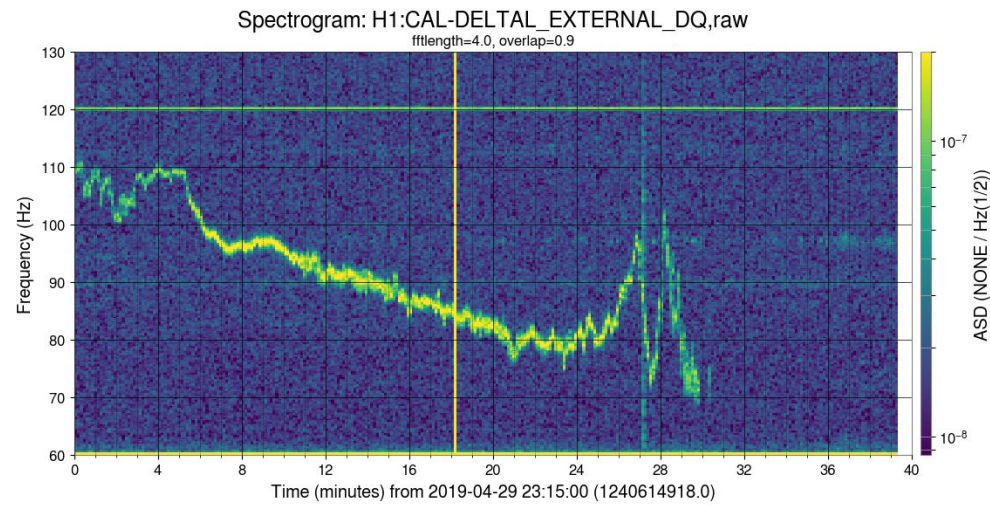
Time 2: Nothing coherent, although the ISCT6 accelerometer looks noisy.

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_ACC_SQZT6_HOMODYNE_X_DQ,raw
fftlength=4.0, overlap=0.9

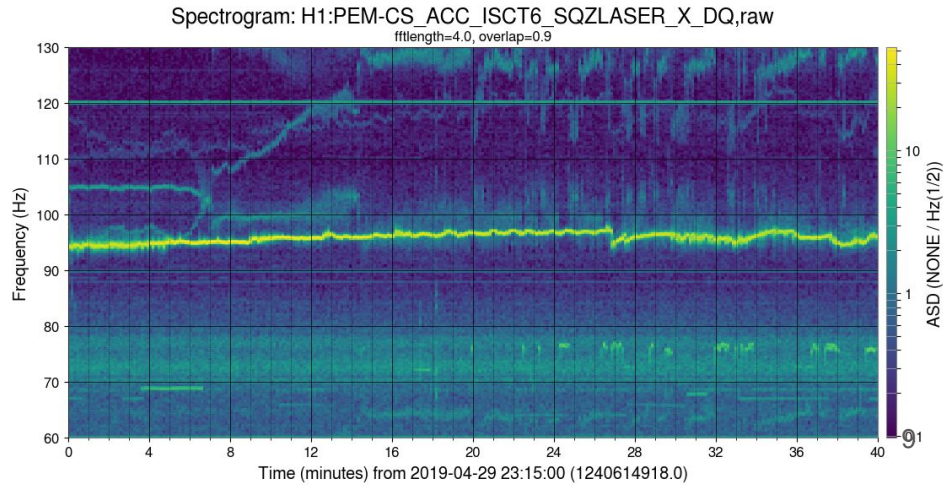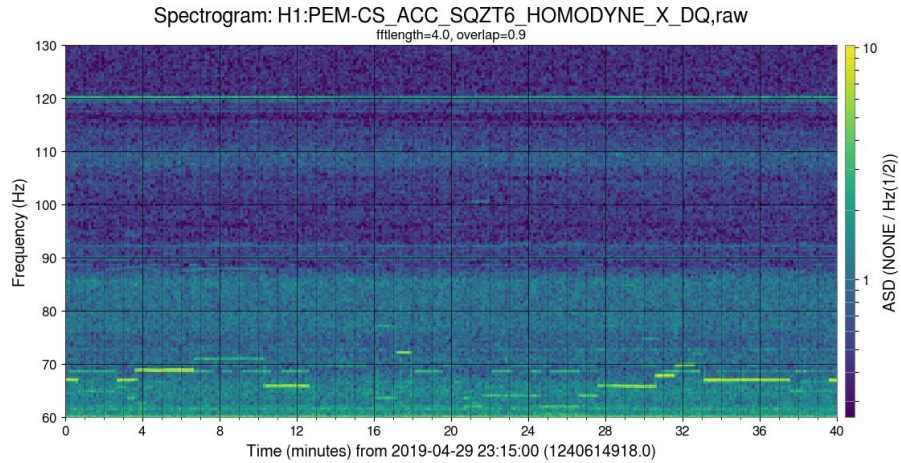Spectrogram: H1:PEM-CS_ACC_ISCT6_SQZLASER_X_DQ,raw
fftlength=4.0, overlap=0.9

Time 2: Can be seen faintly in the outputoptics magnetometer.

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_Y_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_QUAD_SUM_DQ,raw
fftlength=4.0, overlap=0.9

30th April ~ 12 UTC. Again we see the trend with the SQZ OMC channel and the OUTPUTOPTICS magnetometer channels, along with darm.
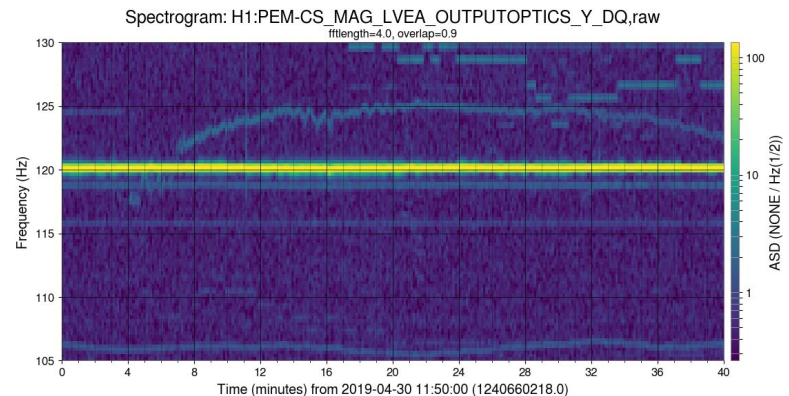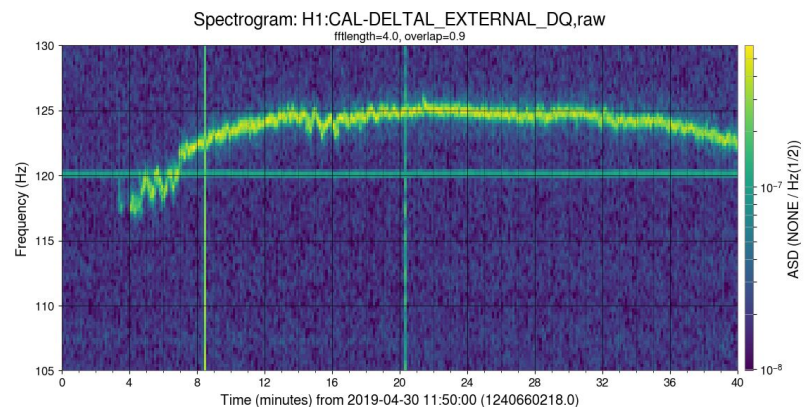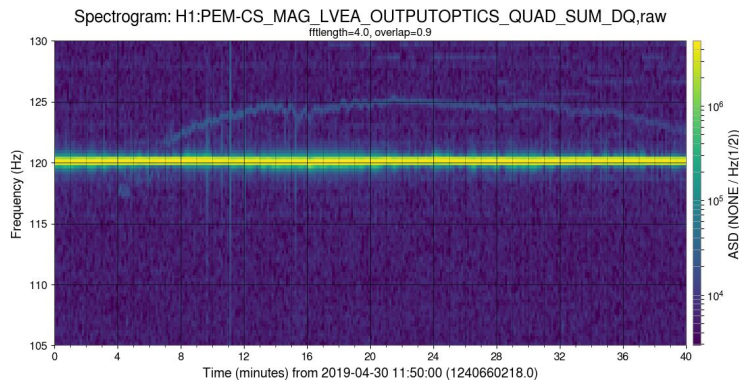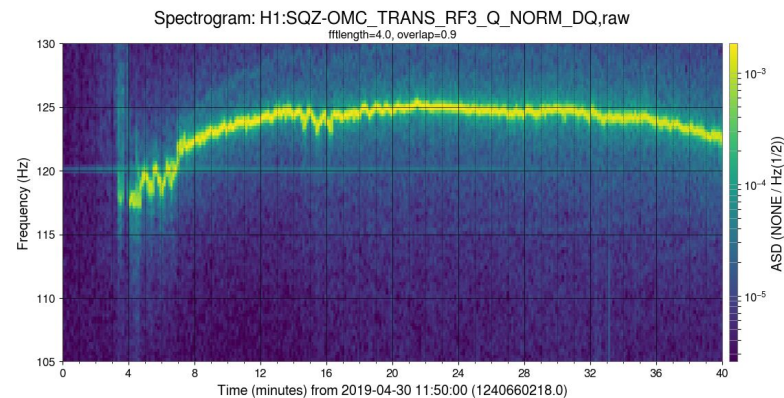
Spectrogram: H1:SQZ-OMC_TRANS_RF3_Q_NORM_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_QUAD_SUM_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_Y_DQ,raw
fftlength=4.0, overlap=0.9

Test by closing the SQZ beam diverter, ~ 22:23:00 UTC

The line came back online as soon as we came back from maintenance today.

We turned off the SQZ beam diverter at around 22:23:48 UTC and the line turned off in DARM.

We turned it back on at 22:25:15 UTC and it came back.

Interestingly, the evolution of the line could still be seen in the outputoptics magnetometer channels at this time.

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_X_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:PEM-CS_MAG_LVEA_OUTPUTOPTICS_QUAD_SUM_DQ,raw
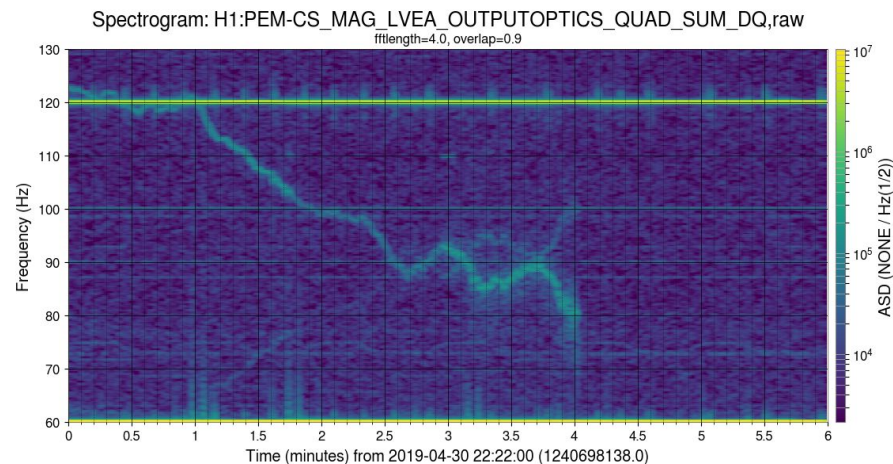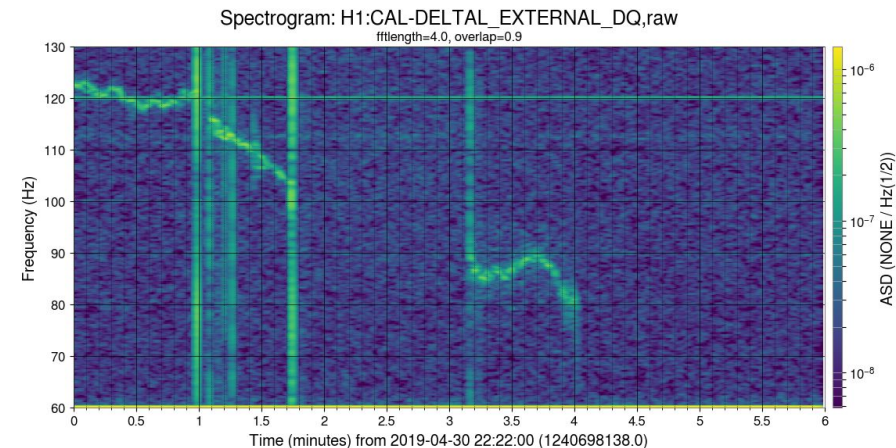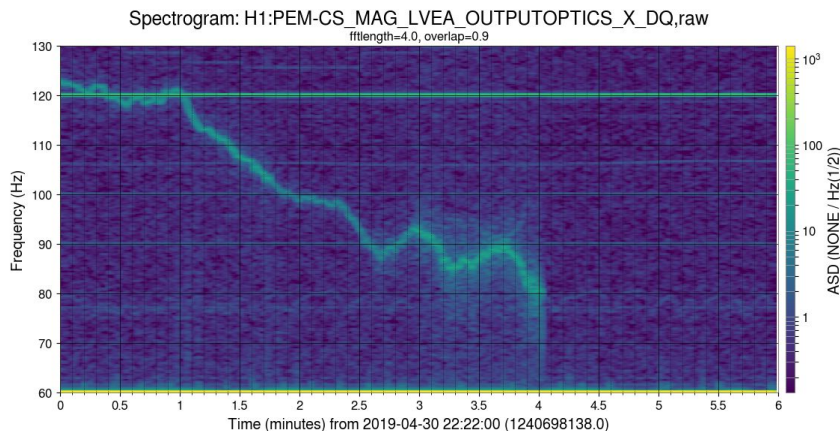fftlength=4.0, overlap=0.9

Test by closing the SQZ beam diverter, ~ 22:23:00 UTC

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We turned off the SQZ beam diverter at around 22:23:48 UTC and the line turned off in DARM.

We turned it back on at 22:25:15 UTC and it came back.

The line is still visible in some SQZ channels

Spectrogram: H1:CAL-DELTAL_EXTERNAL_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:SQZ-FIBR_PZT_OUT_DQ,raw
fftlength=4.0, overlap=0.9

Spectrogram: H1:SQZ-OPO_REFL_RF80_I_NORM_DQ,raw
fftlength=4.0, overlap=0.9

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