aLOG report @LLO

2015/8/4(火) @DetChar meeting, 譲原

o LHOのaLOGについて興味深いと思った記事をピックアップした

https://alog.ligo-wa.caltech.edu/aLOG/index.php

o 今日の記事

- maintenance dayに起こった地震

- bruco coherence report

- ER7中の散乱関連のノイズ

7/28 maintenance day

https://alog.ligo-wa.caltech.edu/aLOG/index.php?callRep=20011

- 干渉計のmaintenance中に地震が起こった

16:00 Charge on ETMY done -- but discover drive is saturating. (Found out later it was because of the move of the "sumComp" filter from DRIVEALIGN to COILOUTF that was performed yesterday evening [[no aLOG]])
Begin Initial alignment

17:05 Found SNR for AS 45 Q (during initial alignment of SRY) was really low, even with high-power into the IFO.
<< **LESSON LEARNED** Discovered there's a -160 dB filter that's ON for full IFO low-noise state, which we *don't* want on during initial alignment. This is *not* included in any Guardian's state request. This *should* be included in both the IFO_ALIGN guardian and the IFO DOWN state.

17:40 **Initial alignment complete, beginning full IFO lock acquisition attempt** (Need some hand tweaking of the BS by Evan)

17:45 We had *just* reached some stages of the CARM offset reduction for the first time and then
Magnitude 5.9 Earthquake - 29km S of Acandi, Colombia

17:50 Charge measurements resume (we figure out the saturation issue mentioned above)
Matt and Hang do some L2P / L2Y measurements on ITMY

18:40 Resume locking

19:10 Make it up to DARM_WFS (not even to RESONANCE where the FULL IFO is at least RF locked on ETMX)
Found ETMY M0 Bounce mode damping filters were not set correctly, ringing up EY's Bounce Mode terribly
-- blamed filters disappearing (debunked)
-- blamed improperly engaged guardian state (debunked)
It was really, that the last global BURT restore was done *before* the EY BIOS upgrade was finished. So we didn't BURT enough!
<< LESSON LEARNED These filters should *also* be forced into the right configuration, since they are NOT monitored by the SDF system (because there are other parts of the filter module that ARE controled by guardian)

19:45 While having resolved the Bounce Mode damping problem,
Magnitude 6.3 Earthquake - 71km SSW of Redoubt Volcano, Alaska

7/28 maintenance day

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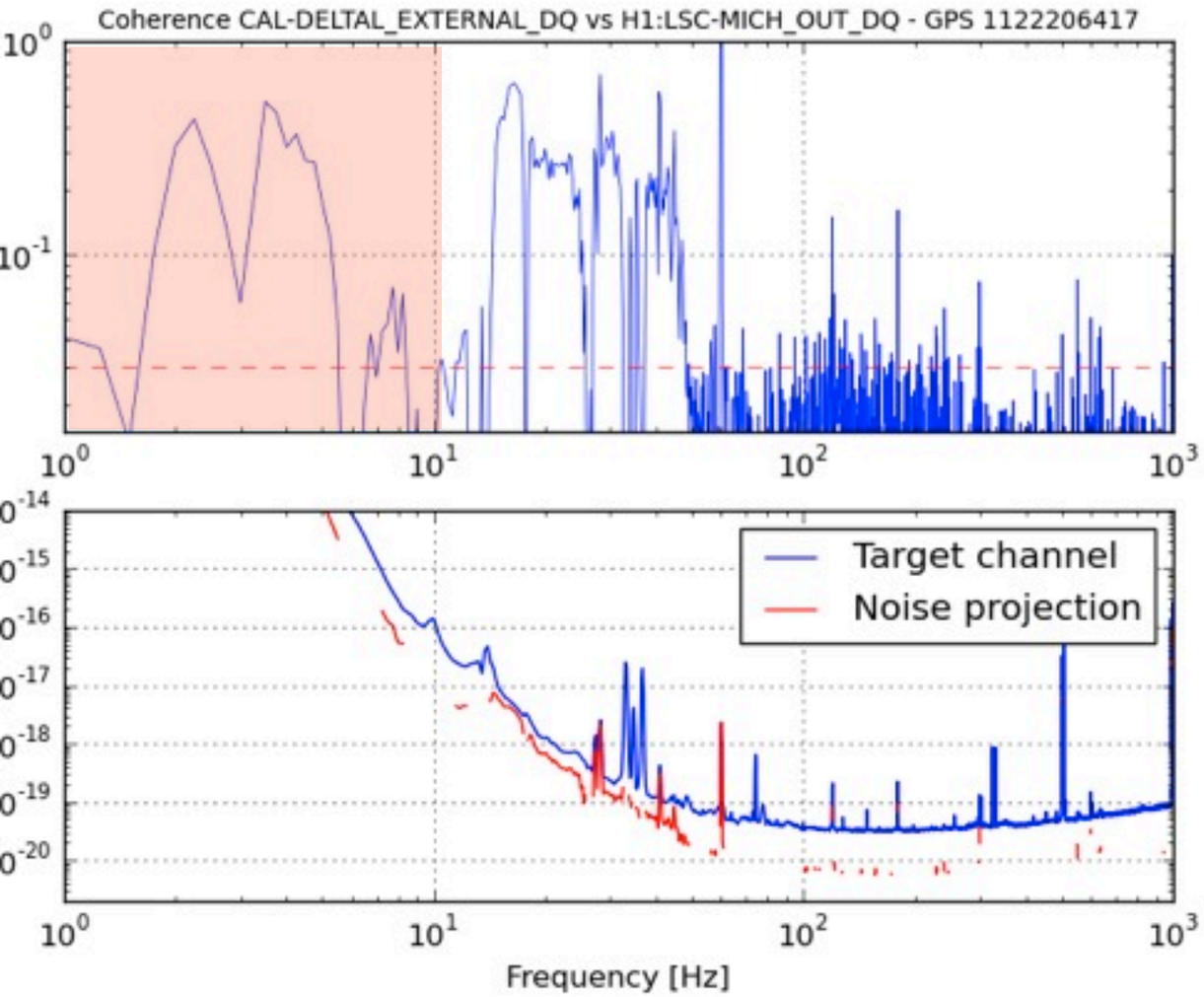
Goodnight everybody. "Things will *definitely* be better in ULTRA LIGO."

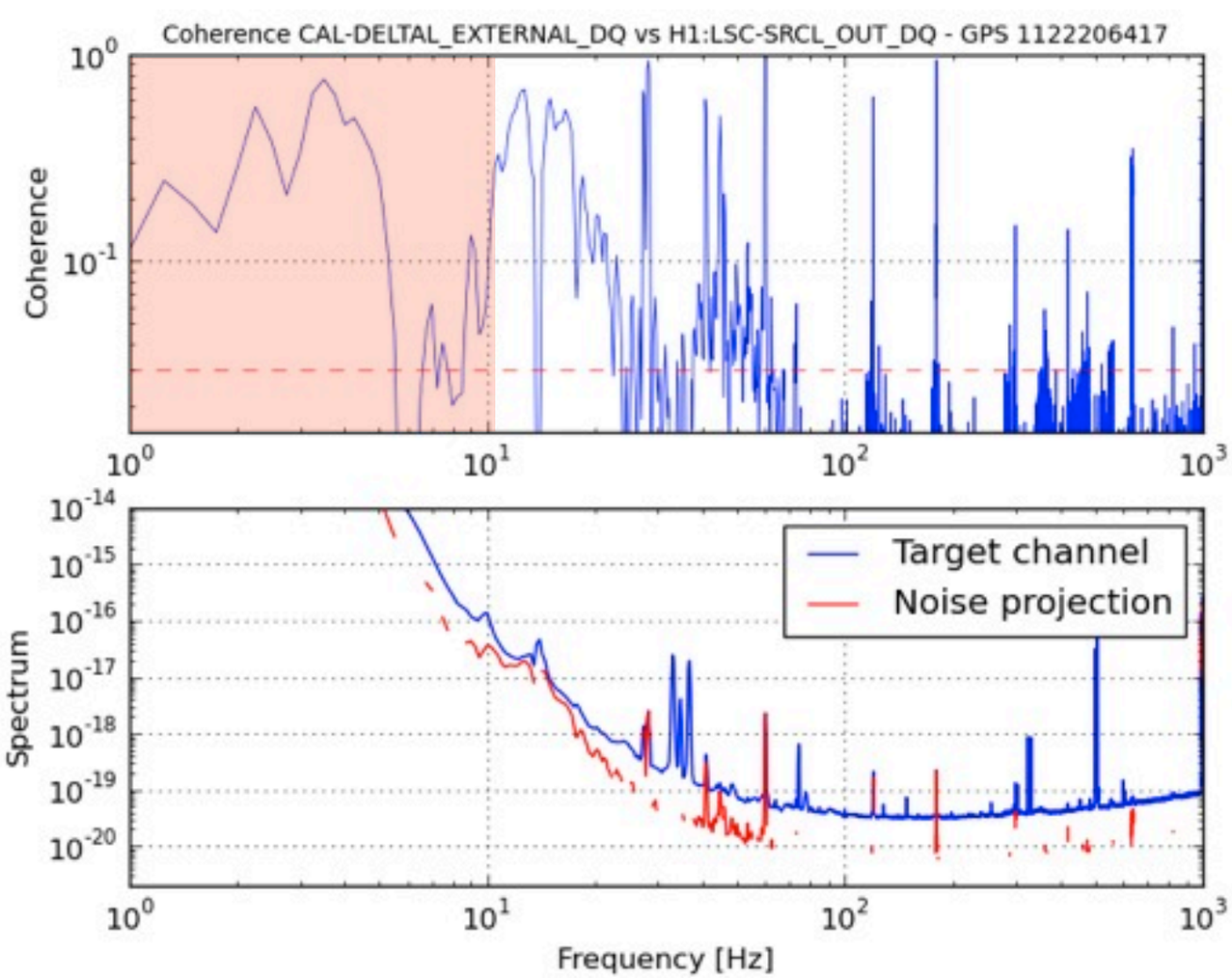
Displaying report 1-1 of 1

ULTRA LIGO？

7/30 bruco coherence report

https://alog.ligo-wa.caltech.edu/aLOG/index.php?callRep=20060





おそらくこれらの図はbrucoの結果を定期的に人がチェックしたコメント

・低周波領域でMICHとSRCLのcoherenceが高い

MICH : Michelson cavity length = (lx - ly)
SRCL : Signal Recycling Cavity Length = (ls + (lx + ly)/2)

7/30 bruco coherence report

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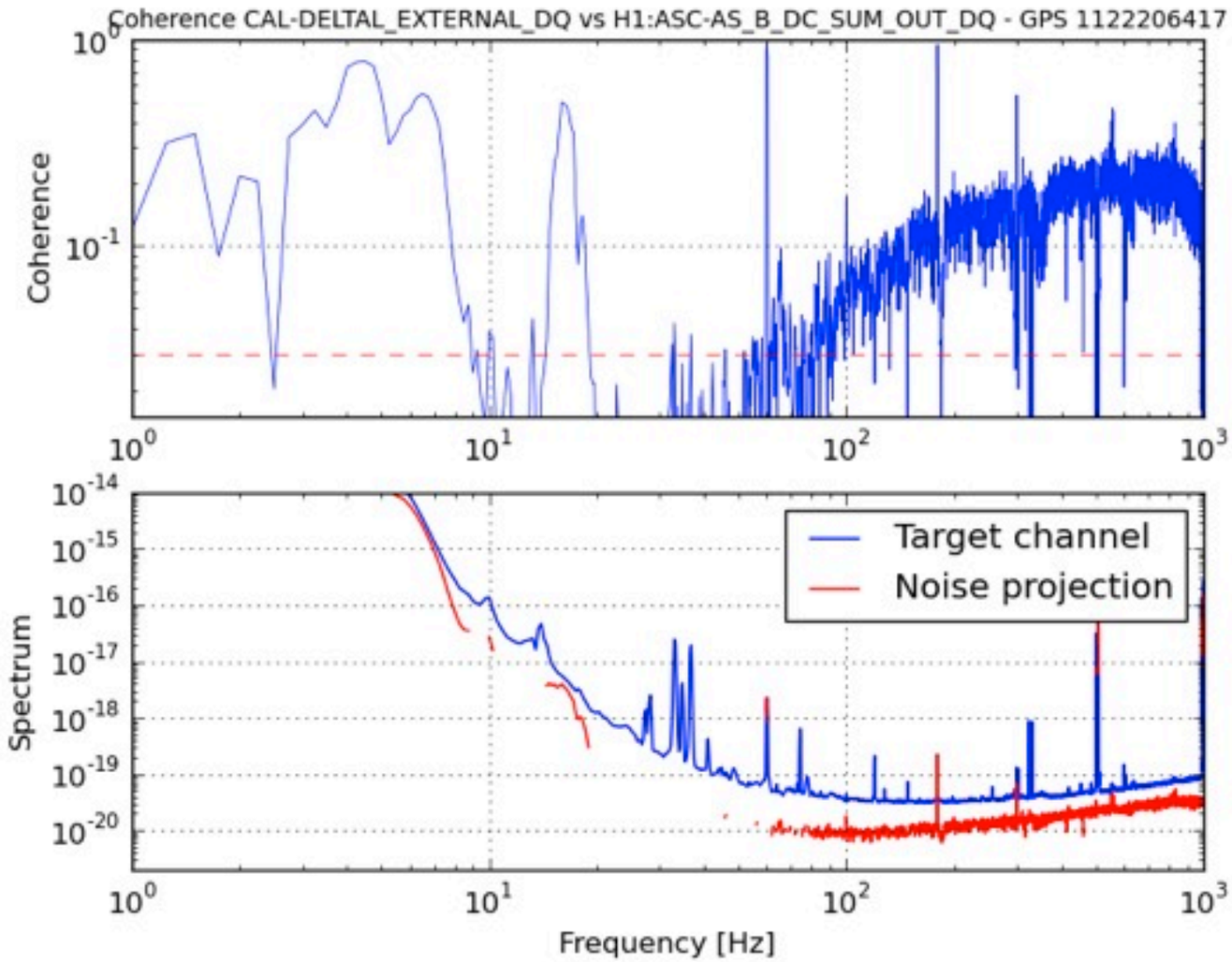


おそらくこれらの図はbrucoの結果を定期的に人がチェックしたコメント

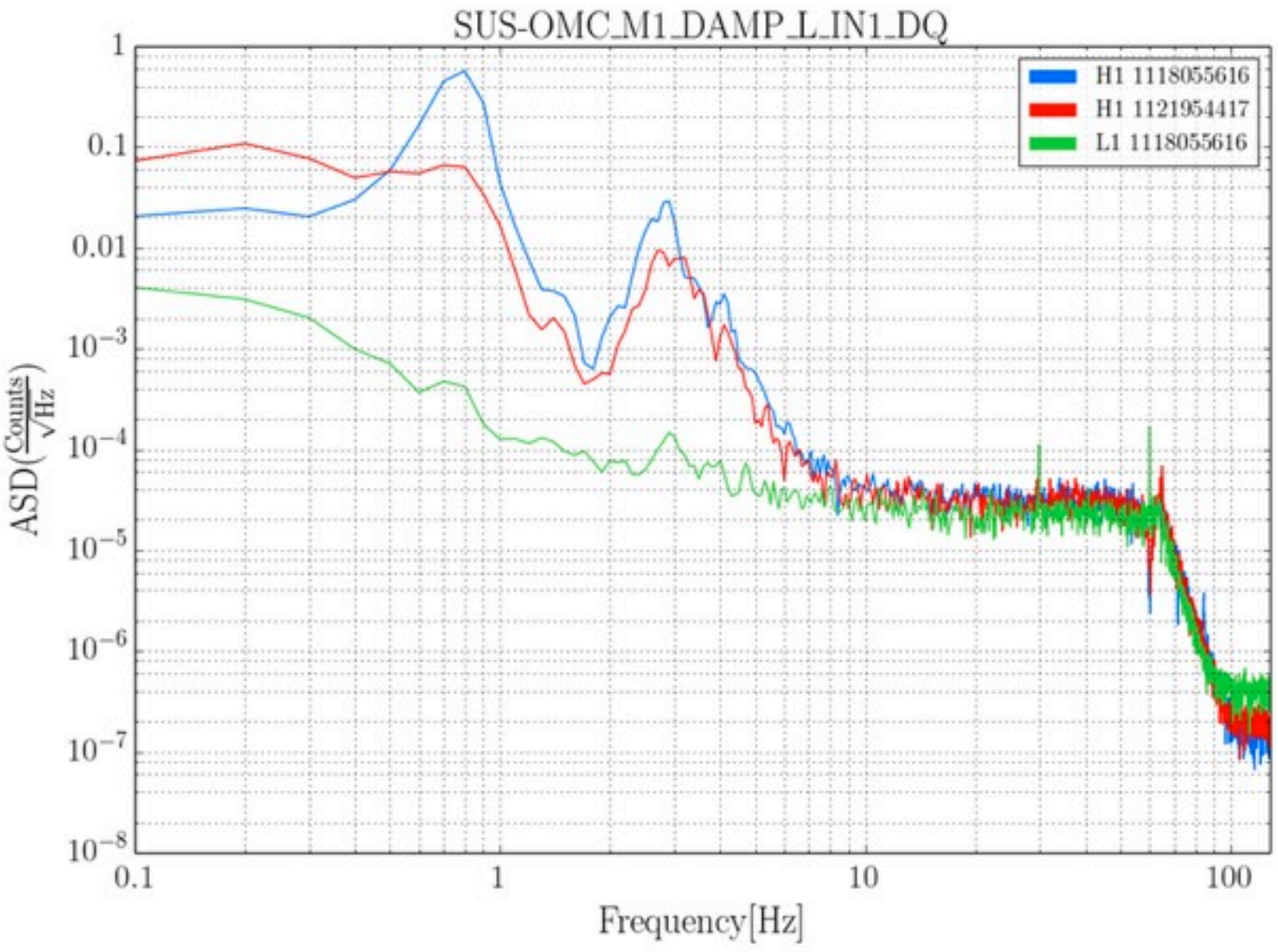
・AS(Anti-Symmetric?) power signalとは通常のcoherenceがある(？)

・64Hzは他のchannelとcoherentである

(PEM-EY_MAG_EBAY_SEIRACK_X_DQ, PEM-EY_MIC_VEA_PLUSY_DQ and PEM-EY_MAG_EBAY_SEIRACK_Y_DQ)

7/30 Update on scattering related to OMC SUS L motion

https://alog.ligo-wa.caltech.edu/aLOG/index.php?callRep=20079



・ER7の最中に0.8~3Hzのところにpeakが現れることがある

=> scattering eventsを引き起こす(DARMの25Hzから50Hzまでに渡るノイズ)

=> burst searchのbackgroundになりうる

DARM : Differential Arm {Length, Signal} - Difference between the x and y arm lengths; This is the main interferometer output signal for GW detection = (Lx - Ly)

7/30 Update on scattering related to OMC SUS L motion

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・ER7のscattering events (DARMの25Hzから50Hzまでに渡るノイズ)