



Summary of Detector Characterization Sessions

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General Comments

- Tremendous progress in last year, especially in last six months, on DMT monitor and infrastructure development (alarms, filters, web support, communication)
- **E8 VERY USEFUL** – Thanks to all participants!
- Finally have a respectable lineup of versatile monitors with visible, meaningful outputs – and approaching standardization, **but more work to do...**
- Scientific monitoring shifts need:
 - » More volunteers
 - » Better definition of duties, including what is shared with operators

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How have we done on the March meeting gripe/wish list?

My gripes/wishes in March: -- present status in red

Need more effective feedback from DMT monitors:

- Many monitors lacking summary html page
 - **Much better!** (many authors)
- Need more guidance on what is “normal”
 - **Still needs work**
- Need global DMT status and alarm handler web page
 - **Alarm page nice, status page needs work** (S. Marka, J. Zweizig)
- Need online figure of merit for astrophysical sensitivity
- -- **Got it!** (P. Sutton, K. Schlaufman)
- Need integration of DMT-produced trends into Data Viewer
- -- **Got it!** (A. Ivanov, J. Zweizig & many authors)

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How have we done on the March meeting gripe/wish list?

Need more automation of mundane scimon tasks and additional interactive tools:

- Keeping track of “clean” locked segments
 - **Got it!** (D. Barker, D. Chin, G. Gonzalez, P. Shawhan, J. Zweizig)
- Producing/logging graphical output sometimes cumbersome
 - **???**
- Need periodic storage & easy retrieval of reference spectra (similar to autoburt)
 - **Work in progress** (Salish-Kootenai group)
- Need GUI-driven real-time time/frequency display
 - **Got it!** (P. Sutton)
- Need GUI-driven real-time band-limited RMS display
 - **Bits & pieces need to be integrated**

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How have we done on the March meeting gripe/wish list?

Need feedback from on-site downstream analysis:

- Confirmation that LDAS pipeline (data & trigger flow) is working (& ability to fix simple problems?)
 - Working prototype – needs shakedown (D. Brown)
- Trigger rates / sensitivities from burst / inspiral search engines to spot pathologies early
 - Implemented for some search DSO's (D. Brown)

Decent progress on the whole



Looking Ahead to S1 and post-S1 Analysis

- Twelve investigation teams (**most need volunteers!**)
- Most but not all scientific monitoring shifts filled
- Tentative set of updated scimon procedures
- Should have considerably more useful information on data quality during and after S1 than we had for E7
- “Synergy” forming between detchar & upper limits groups

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S1 Scientific Investigations (leaders, members)

Understanding the GW channel (& tool comparisons):

- Calibration stability (R.Adhikari, M.Landry, S.Marka)
- Violin modes (S.Klimenko, M.Diaz, N.Zotov)
- Spectral distortion (M.Diaz, K.Riles)
- Steady-state correlations (N.Christensen, A.Ottewill)
- Glitches (J.Giaime, E.Daw, N.Zotov)
- Bilinear couplings (S.Penn, E.D'Ambrosio, B.Bhawal)

Environmental investigations:

- Correlated inter-site transients (R.Schofield, R.Frey)
- Local environmental disturbance (R.Schofield, R.Rahkola)



S1 Scientific Investigations (leaders, members)

System verification:

- Timing precision (D.Sigg, S.Marka)
- Data quality (J.Zweizig, E.Daw, G.Gonzalez, K.Riles, R. Schofield, D.Sigg)
- Data access (P.Shawhan)
- Data set reduction (I.Leonor)

More volunteers needed!



Looking Ahead to S2 - Tools

- We now have a fairly comprehensive suite of DMT monitors and other tools with which to understand the data. Some potential redundancy.
- Many S1 investigation teams charged with tool evaluation & comparison to prepare us better for S2.
- Scimon shifters should help too!



Looking Ahead to S2 – Scimon shifts

Need improved scimon shift allocation scheme

- Altruism not cutting it and S2 much longer than S1

Revised proposal:

- “Nominal” target fraction for each group determined by fraction of total non-GEO, LIGO I FTE count (~100)
- Deviations (up or down) from target negotiated with LAB in 6-month MOU where other service work or special circumstances warrant.



Looking Ahead to S2 – Scimon shifts

Status:

- Executive committee agreeable to principle, details of MOU language to be worked out

Consequences:

- S2 to have ~300 expert shift slots (not including trainee slots)
→ More than 3 slots per FTE is nominal target
- Need trainees to graduate soon!
- Strong impetus to develop tools/procedures/stability to permit non-24/7 coverage of scimon shifts → goal for S3 after ~1st month

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Presentations in DC Sessions

Lots of interesting talks! (software & hardware)

- Can't do justice to these in brief summary
- [Agenda](#)