



Introduction to Detector Characterization Sessions

Keith Riles
University of Michigan

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Introd. to Detect. Charact. Sessions - 2002.3.22

K. Riles - University of Michigan

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- Will not give detailed status report / overview here
(see LSC-wide teleconference presentation:

http://www-mhp.physics.lsa.umich.edu/~keithr/lscdc/riles_lsccon_20feb02.html)

- Want to focus here on some control room issues:
Things we need to fix before S1
- E8 (April/May?) can give us a dry run to see where we stand after post-E7 fixes



E7

E7 was a success in many ways:

- Three-fold IFO coincidence with not-terrible duty cycles (LHO 2K recycled)
- LHO 2K sensitivity $\sim 2 \times 10^{-20} \text{ Hz}^{-1/2}$ @ 900 Hz
- Voluntary manning of 24/7 scimon shifts at both sites (140 12-hour shifts!)
- Thirteen E7 investigation teams, Upper Limits studies (most reporting here)



E7

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- Many DMT monitors running
 - Improved feedback from monitors to scientists & operators on shift
 - Much DMT trend and other info recorded to disk for offline investigations
 - LDAS search jobs running on-site in real-time



Problems

BUT...

Need more effective feedback from DMT monitors:

- Many monitors lacking summary html page
- Need more guidance on what is “normal”
- Need global DMT status and alarm handler web page
- Need online figure of merit for astrophysical sensitivity
- Need integration of DMT-produced trends into Data Viewer playback



Problems

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

- Keeping track of “clean” locked segments
- Producing/logging graphical output sometimes cumbersome
- Need periodic storage & easy retrieval of reference spectra (similar to autoburt)
- Need GUI-driven real-time time/frequency display
- Need GUI-driven real-time band-limited RMS display



Problems

Need feedback from on-site downstream analysis:

- Confirmation that LDAS pipeline (data & trigger flow) is working (& ability to fix simple problems?)
- Trigger rates / sensitivities from burst / inspiral search engines to spot pathologies early

Volunteers working on most of the above needs

Be ready for S1! (try for E8!)



This meeting

Tremendous activity – 40 or so detchar talks!

- DMT software – new or improved monitors
- Other software / resources development
- New algorithms & methods from GEO colleagues
- Detector performance & simulation
- E7 reports (LIGO / GEO / ALLEGRO)

Looking forward to hearing interesting reports