

Stochastic Upper Limit Group Meeting

1. Missing work plans:
 - (a) Line removal
 - (b) Detector characterization
 - (c) Monte Carlo simulation/statistical analysis
2. LAL/LDAS system integration MDC “inch pebble”:
 - (a) Last week of June (Wed.-Fri. June 27-29, 2001)
 - (b) Location: LLO
 - (c) Participants: Joe, John, Sam, Warren, Albert??. LDAS support people, others??
 - (d) Scope needs to be defined: draft by April 15 (Joe)
3. Engineering runs:
 - (a) How can we take advantage of prior analyses?
 - (b) Same-site correlations (E2): Ottewill, Christensen, ...
 - (c) Inter-site correlations (E3): Landry et al., Charlton, others
4. Data analysis pipeline:
 - (a) Exploratory analysis of cross-correlated environmental noise, production mode LDAS analysis, Monte Carlo simulations, ...

- (b) How to stage, integrate, etc?
- (c) Where to do the cross-correlated environmental noise analysis? (within the DMT, datacondAPI, lalwrapper, ...)
- (d) Where to do the Monte Carlo simulation analysis? (within the datacondAPI, lalwrapper, guild, LIGOtools, ...)

5. Line removal:

- (a) Power lines are most likely source of cross-correlated environmental noise.
- (b) How to remove?
- (c) What methods exists?
- (d) Where? (DMT, datacondAPI, ...)
- (e) How do different methods compare? (notching, coherent line removal, regression with magnetometer channel, ...)

6. Length of data stretches:

- (a) 10 s, 100 s, 1000 s, ...??
- (b) Depends on stationarity of instrument.
- (c) Should have only 5-10% variation over hours by E6.

7. Data product:

- (a) Trend frame containing output of optimally-filtered CC statistic and information about detector noise for each stretch of data.
- (b) Other information? (e.g., values of $S_{xy}(f_i)$ for $f_i = 1 \text{ Hz}, 2 \text{ Hz}, \dots, 256 \text{ Hz}$ for a selected set of channels)
- (c) What channels?
- (d) How many?

8. Testing and calibration:

- (a) Hardware injection of cross-correlated noise (M. Zucker)
- (b) What should we inject?
- (c) How often?
- (d) How to remove?

9. GEO involvement:

- (a) GEO-600 will run in coincidence with LIGO during E6.
- (b) How/should we analyze GEO data?
- (c) Cross-correlate PEM channels? (geophysical information)
- (d) Cross-correlate gravitational-wave signal? (poor overlap)

10. Overall scope:

- (a) What is the minimal analysis that we can do for E6?
- (b) ALLEGRO, GEO involvement time-permitting.