



S3 expectations, S2 calibration

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Some S3 expectations, desires

- It is hard to know what the ifo's will be like four months from now, so caveat emptor (or as my philosophical cabbie said about the San Antonio Spurs this morning, you can make all the predictions you want, but it don't mean squat)
- Run to start Halloween, duration Nov/Dec
- May run ~1 week, commission/correct ~1 week, resume.
- If seismic mitigation delayed at LLO, could extend run into New Year. Besides, the holidays are very quiet
- All three ifo's at comparable sensitivities, at least as good as LLO during S2
- More WFS degrees of freedom controlled on all ifo's



expectations, desires, contd.

- All 10 angular d.o.f. controlled on H1. H2 and L1: more than 2, perhaps not all 10. Eight? Currently 10 d.o.f. on H1 (was 8 during S2), but only 2 on H2, and ~4 on L1
- RFI cleanup, installation of linear power supplies
- Acoustic mitigation efforts



longer term stuff

- Seismic retrofit at LLO
- Power up in H2, L1
- Thermal lensing (new recycling mirrors)
- (others include microseismic peak reduction at LHO, photon calibrator, ISS, WFS5, replacement lossy PMC)



S2 calibration

- Online calibration during S2 was available: frequency series very representative, however, DC factor of 20% (better) sensitivity must be applied
- Full model for all sites employed for both online and postrun calibration
- Multiple DC methods analyzed for S2, with good agreement
- Frequency series (olg, sensing, response) for H1 produced and handed off to Patrick Sutton (validation, production of alpha, beta time series)
- H2 frequency series by the end of this week
- Need to understand epoch in which a given calibration is applicable



S2 calibration, contd.

- Calibration to-do
 - » Matlab models: check against measurements (DC, frequency sweeps, hardware transfer functions)
 - » Check calibrations measured in different epochs against time-propagated ones
 - » Error estimation
 - » Autocal vs official cal S2 comparo
 - » UGF tracking, alignment function comparison, short term fluctuations, and calibration of other ifo channels
- Expect final signoff on calibration documentation i.e. files and associated documentation by end of July – however, should have workable calibration ~2 weeks