

Report of the 40 m TAC 8th June 2006. LIGO-T060127-00-R

K.A. Strain for the 40m TAC

June 12, 2006

June 8th 2006 40m TAC telecon minutes

Attending

Bob Taylor, Osamu Miyakawa, Ben Abbott, Rob Ward, Dan Busby, Steve Vass, Rana Adhikari, Alan Weinstein, Hartmut Grote, Ken Strain, Valera Frolov, Kentaro Somiya, Yanbei Chen, David Shoemaker, Daniel Sigg, Peter Fritschel, Nergis Mavalvala, David Ottaway, Dennis Coyne. We started by reviewing the main points from the previous report (T060036).

The beam pattern at the AS port has not yet been investigated, but this will be done in preparation for the DC readout experiments, so is in hand.

The squeezing experiment is not hindering the other 40m work.

A presentation of recent results was given (G060280). Significant progress was reported in all areas: the main 40m program, the simulation program, and the setting up of the squeezing experiment.

There was some discussion of the sequence of tests to validate the dither locking for the OMC. The test plan is constrained by the availability of the full control system; in any case a full test is planned *in situ*, in air to validate the control method.

Issues relating to the elimination of sidebands-on-sidebands by methods other than the Mach-Zehnder were discussed. It was noted that there is going to be further work on the series-modulator approach. The required degree of unwanted sideband suppression, for the 40m and Advanced LIGO, should be determined by modelling.

The 40m schedule and progress was felt to be satisfactory to provide input to Advanced LIGO ISC. We request, however, that at the next TAC meeting, the team provides a list of ISC-related milestones, and shows how progress is being made against them.