Brief Summary of Visit to LIGO (Caltech), May 7th – May 15th 2004

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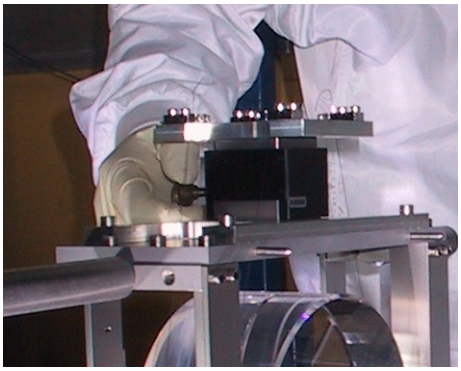
Revision 00: release

The main purpose of this visit to LIGO at the California Institute of Technology was to take part in experiments to highlight key design issues relative to assembly and installation of a quadruple pendulum.

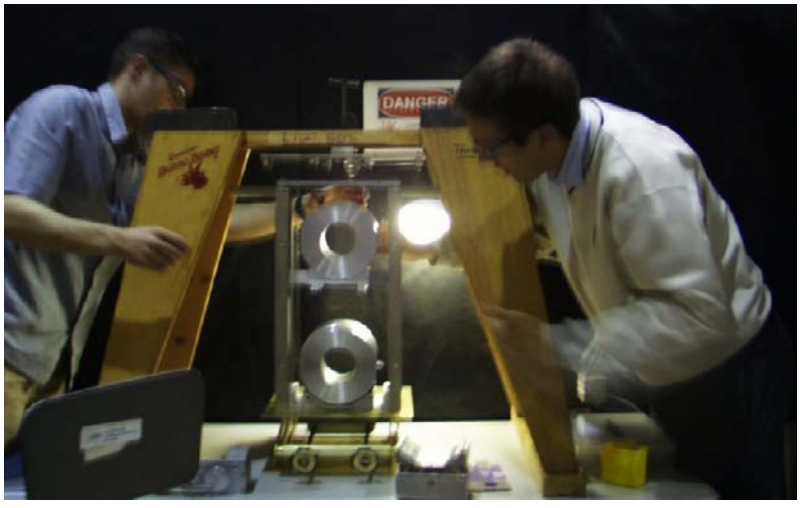
The experiments carried out were as follows:

1) Testing of fibres in the GEO Catcher design (spring wire)



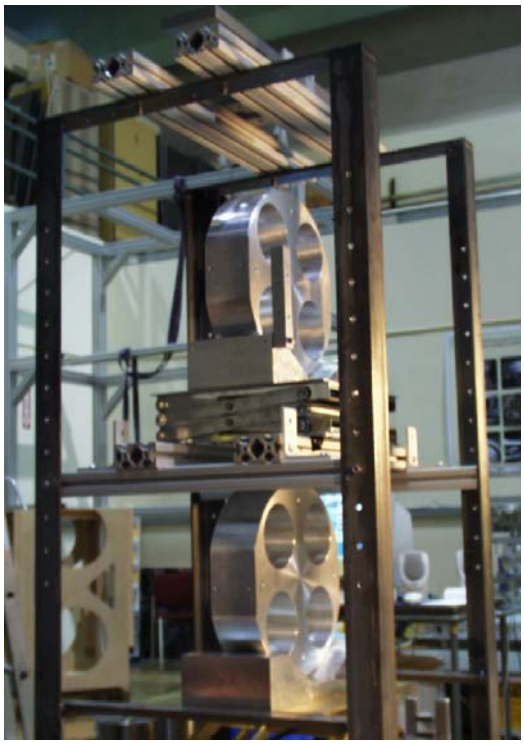
2) Double suspension with respect to fixed upper mass (GEO Catcher)

This experiment followed the approach to assembly of the monolithic main suspension in GEO[1]. We brought the GEO catcher with dummy final stages into location with a fixed upper mass (including blades and wires) and acted out the process of suspending the pendulum. This involved the use of a jack to lift (and lower) the Catcher and allow the attachment of the wires from the upper mass.



[1] LIGO-T040016-00-D Process Diagram for Use of the GEO600 Mass Catcher (R.Jones, G. Cagnoli)

3) Suspending the final two stages (both ~40kg) of an all metal quad




As in experiment (2), this involved the use of a fixed upper mass.

Some key issues:
Aligning masses
Routing wires
Jacking

4) Full scale concept Quad Structure (made from MDF/wood) with Gazebo (Bosch section Frame)