

LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

- LIGO -

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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LIGO-II Seismic Attenuation System (SAS) test tower		
Mechanical drawings listing		
Riccardo DeSalvo		

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This is an internal working note
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California Institute of Technology
LIGO Laboratory - MS 18-34
Pasadena CA 91125
Phone (626) 395-212
Fax (626) 304-9834
E-mail: info@ligo.caltech.edu

Massachusetts Institute of Technology
LIGO Laboratory - MS 16NW-145
Cambridge, MA 01239
Phone (617) 253-4824
Fax (617) 253-7014
E-mail: info@ligo.mit.edu

www: <http://www.ligo.caltech.edu/>

The SAS group has designed, built and successfully tested the prototype of a Seismic Attenuation System capable of fully satisfying all the isolation requirements of the Advanced LIGO interferometer. It actually delivers a large overkill of seismic attenuation starting at 6 Hz.

This document lists the mechanical drawings used to build that prototype.

The SAS can be divided into three components,

- the Inverted Pendulum ultra low frequency isolation tower
- the Top Filter or Filter 0
- and a chain of Standard Filters.

The chain can support a payload (mirror suspension double pendulum or other) of arbitrary weight, up to 500 Kg.

The mirror suspension double pendulum is supposed to be supported by the last of the standard filters.

The Inverted Pendulum and Filter 0 form the so called pre-isolator stage and are provided with inertial damping of the rigid body modes of the standard filter/payload chain.

The SAS design is divided into 6 packages,

- the Inverted Pendulum, 26 drawings LIGO-D-010240-00-R
- the Filter 0, 10 drawings LIGO-D-010241-00-R
- Standard Filters, 17 drawings LIGO-D-010242-00-R
- Assembly tools
 - (i) Betoniera, filter assembly tool, 2 drawings LIGO-D-010245-00-R
 - (ii) Blade bending tool, 10 drawings LIGO-D-010246-00-R
 - (iii) Wedge compressor tool LIGO-D-010247-00-R
- LVDT, 4 drawings LIGO-D-010243-00-R
- and electronics diagrams LIGO-D-010248-00-R
- Horizontal Accelerometer, 10 drawings` LIGO-D-010244-00-R