Thermal Conductivity for MoRuB **LIGO- T030202-00-D**

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The expected limiting factors on the sensitivity of gravitational interferometers are Newtonian seismic vibrations, suspension thermal noise and the quantum limits (radiation pressure and shot noise).
The quantum limits represent the ultimate sensitivity of an interferometer, which cannot be surpassed. Fortunately, many gravitational wave events are expected to produce signals well above this limit.
The Newtonian seismic noise, arguably the most difficult noise source to overcome, is overwhelming at low frequencies, where the majority of gravitational waves are expected.
At this point, the thermal noise of the mirror and its suspension fibers limit the sensitivity, which is expected to be one of the final barriers between the current interferometer sensitivity and that of the quantum noise limit.
There are three approaches to the problem of thermal noise which receive considerable attention: (1) cryogenic suspension, and the replacement of piano wire mirror suspension fibers with (2) fused silica or amorphous (glassy) metal flex joints.
In order to investigate heat transfer along the sapphire fibers and along amorphous metals (MoRuB) we have done measures of Thermal Conductivity on samples of these materials.