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# Output Optics

- ∞ DC Readout – development at 40m (Rob Ward's thesis)
- ∞ RF Readout - fallback plan, needs people (Keita)
- ∞ HAM Isolation - Wait for HAM downselect, probably
- ∞ Viewport plate - Kyle Ryan is getting a drawing/quote
- ∞ Misc: RF WFS in-vac, OMC body material, etc.

# OMC Suspension

Vuk Mandic  
Caltech

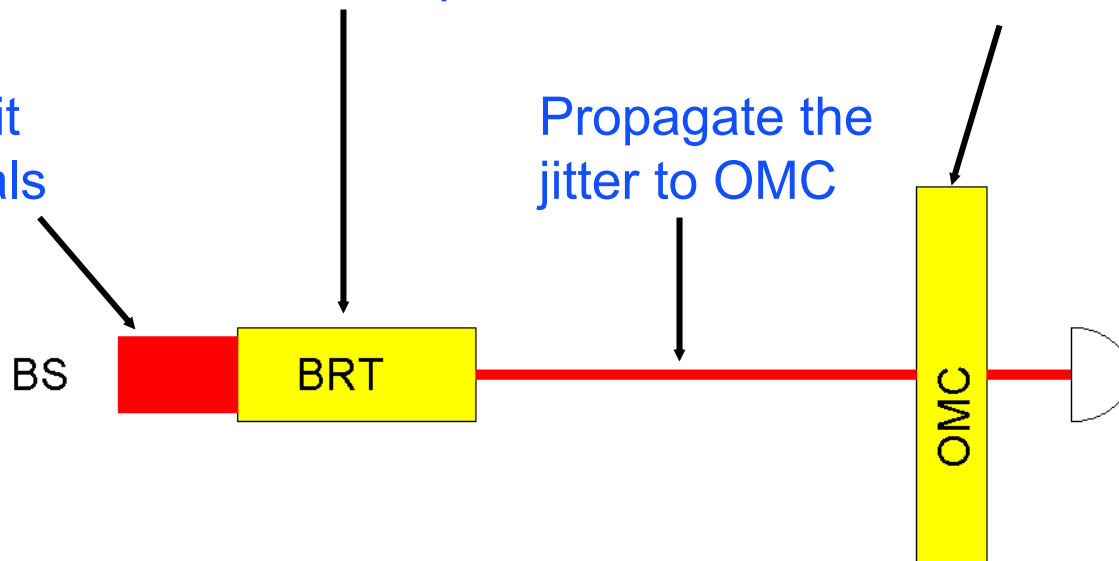
LSC Meeting, LHO, 03/21/06

# OMC Suspension (1)

Beam Reducing Telescope:  
On HAM 4 Stack.  
Should it be suspended?

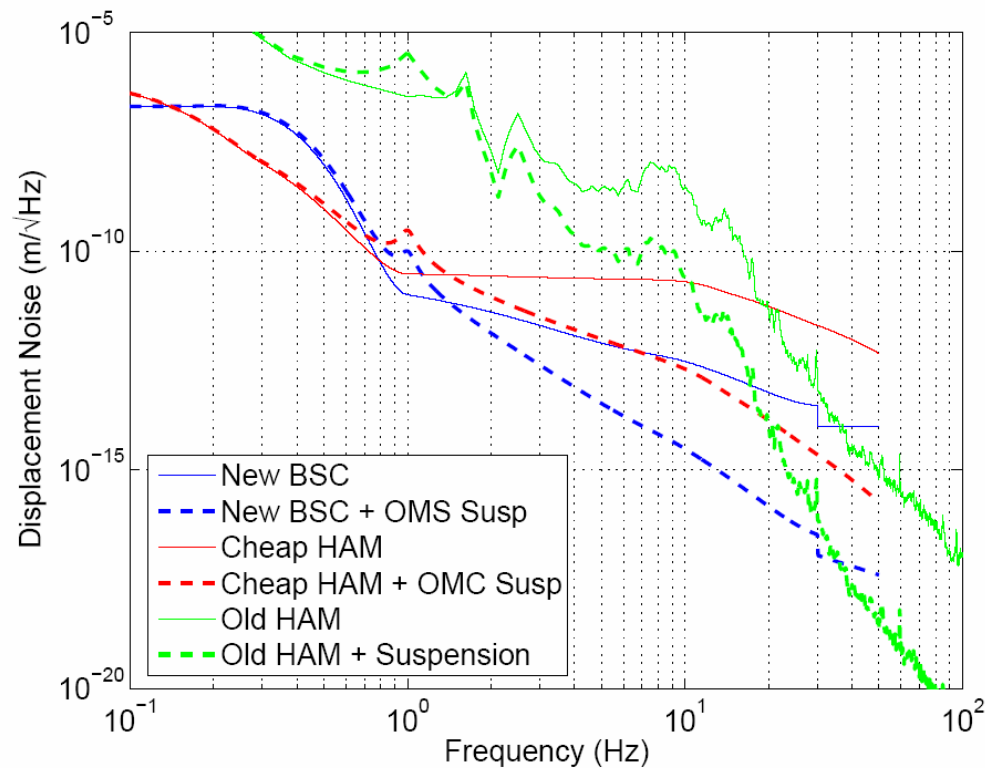
Output Mode Cleaner:  
Is ALIGO BSC necessary?  
Is ALIGO HAM necessary?  
Should it be suspended?  
How much?

Beam jitter:  
Try to estimate it  
from WFS signals



# OMC Suspension (2)

- ❑ Not clear if ALIGO BSC requirement is necessary for OMC
  - Need an estimate of the beam jitter at the AS port.
- ❑ OMC Suspension should be simple
  - Something like the Ref. Cavity suspension.
  - Support the OMC and related optics.
  - ~1 Hz resonance.
  - More than one stage?





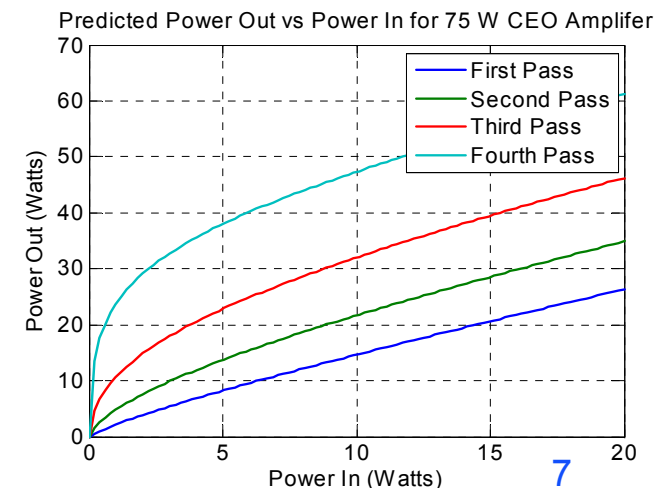
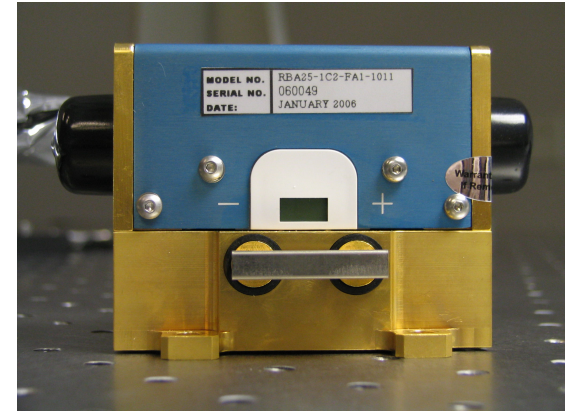
# CEO Laser Amplifier Test

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Dave Ottaway, David Hosken, Joe Giaime and Rupal Amin

# PSL Power Upgrade Test

- Aim: Investigate the feasibility of increasing the power of Lightwave 10 Watt PSL Using commercially available optical amplifiers
- Status
  - Predictive code upgrade by David Hosken
  - Parts have been ordered, (Funded by Joe Giaime and LSU)
  - Assembly beginning early March
  - Approximate cost is \$50 K per IFO depending on required power



# Plan

- ❑ Determine Power Extraction
- ❑ Confirm the model predictions
- ❑ Determine spatial mode quality
- ❑ Determine Optimal Amplifier Approach
- ❑ Test long term reliability
  - Long term stability
  - Frequency Stability
  - Intensity Stability
  - Mode Stability