

# Angular Fluctuations in LLO

Gabriela González

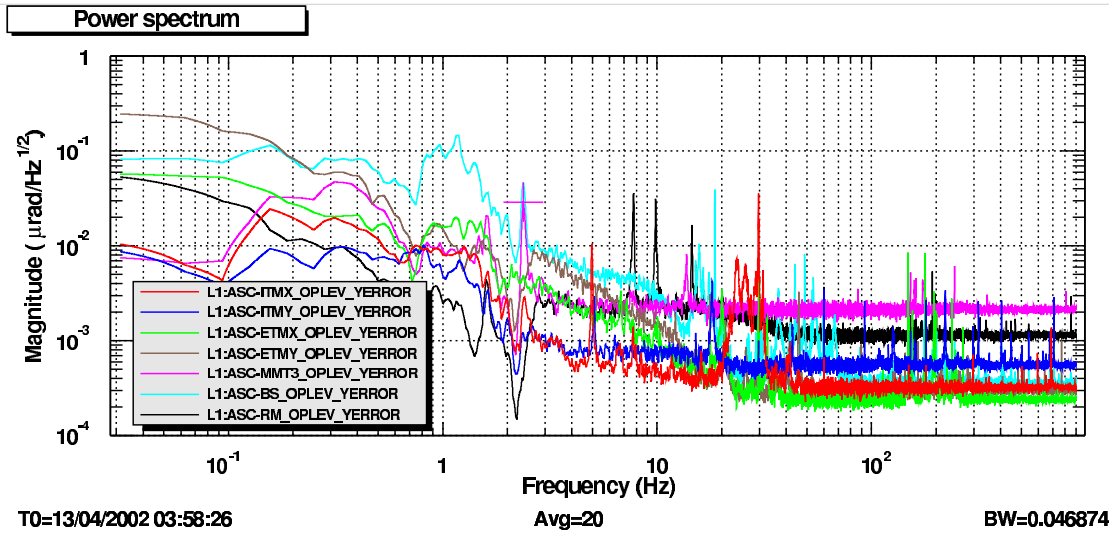
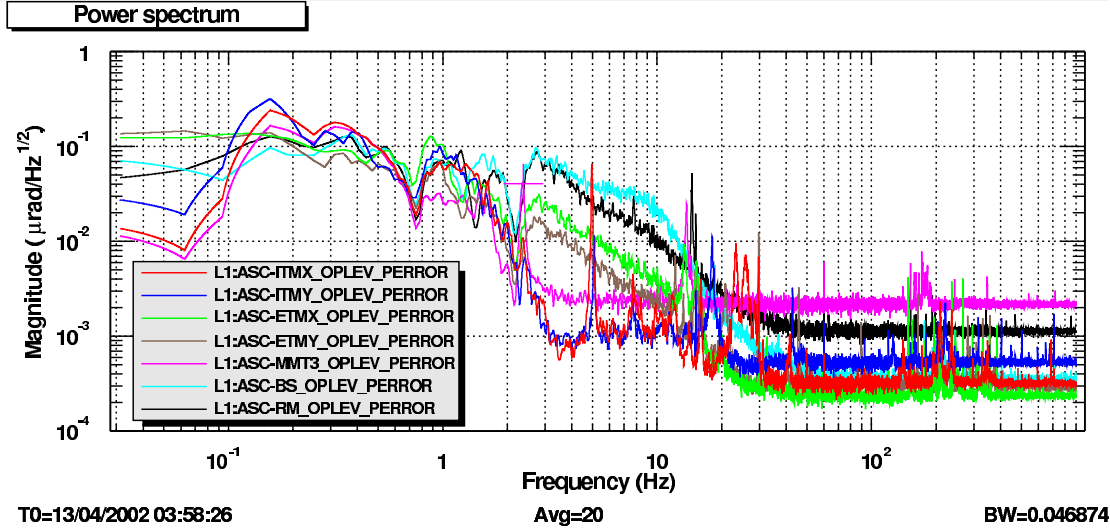
Louisiana State University

*LSC meeting, LHO, August 2002*

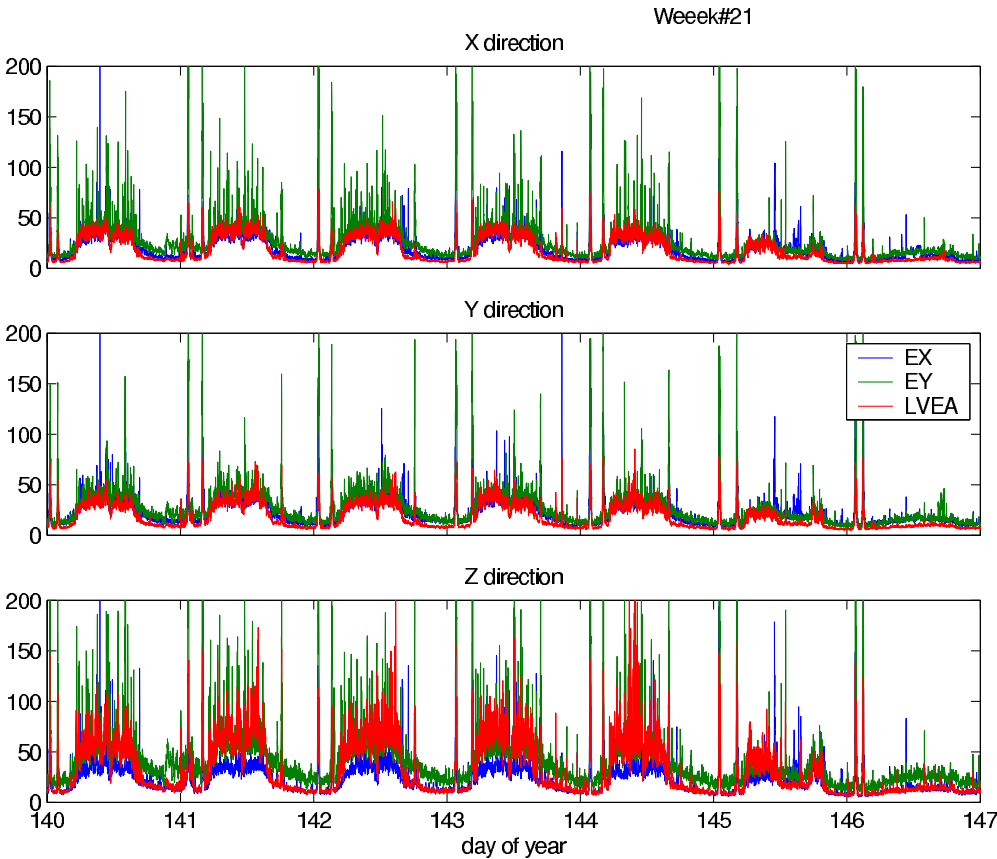
DCC number G020350-00-Z

August 19, 2002

# Angular motion: measured with optical levers

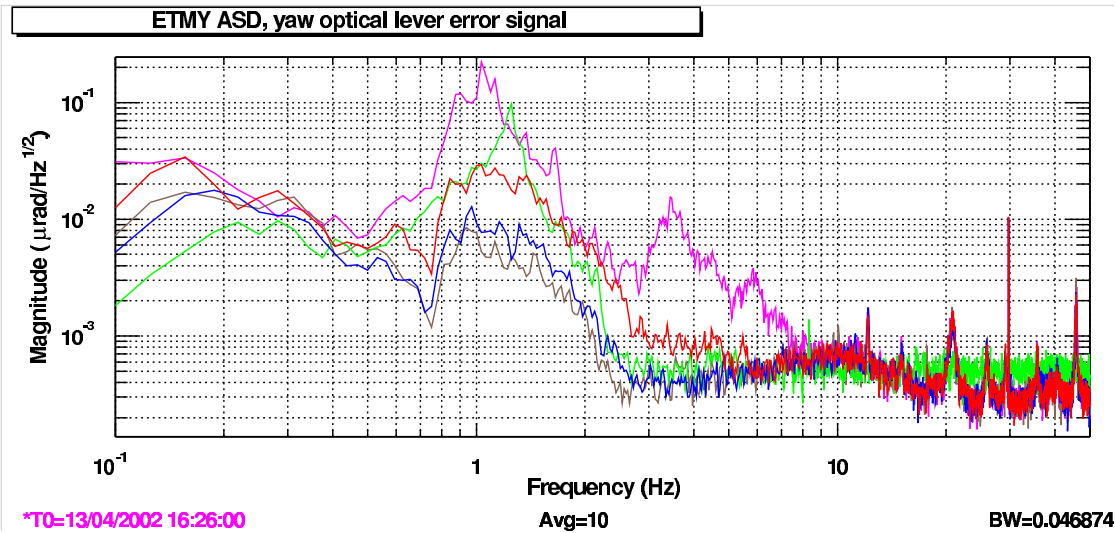
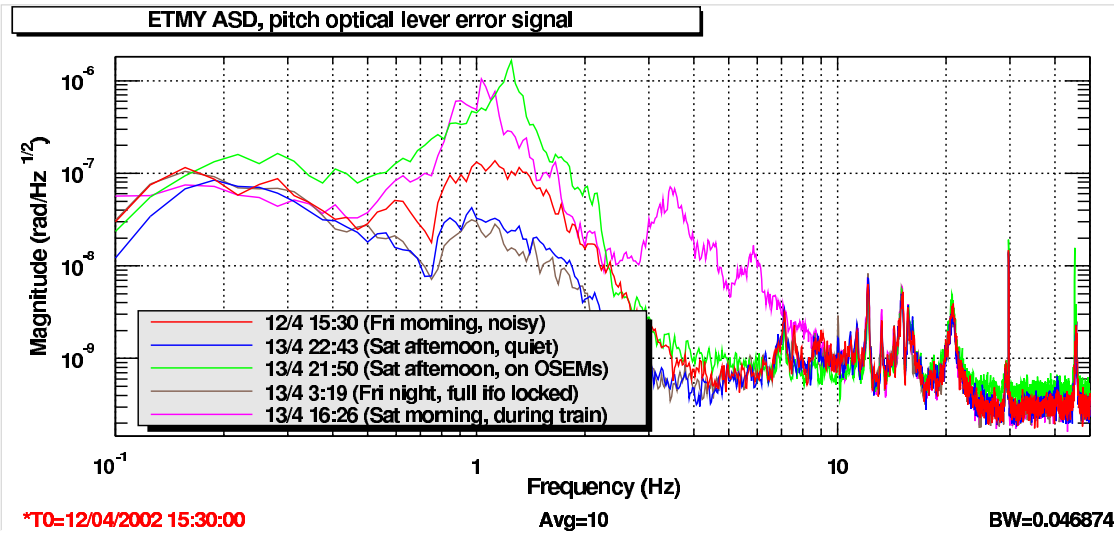


Our weekly cycle:



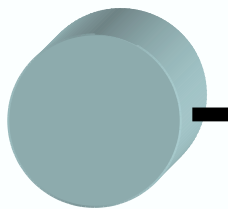
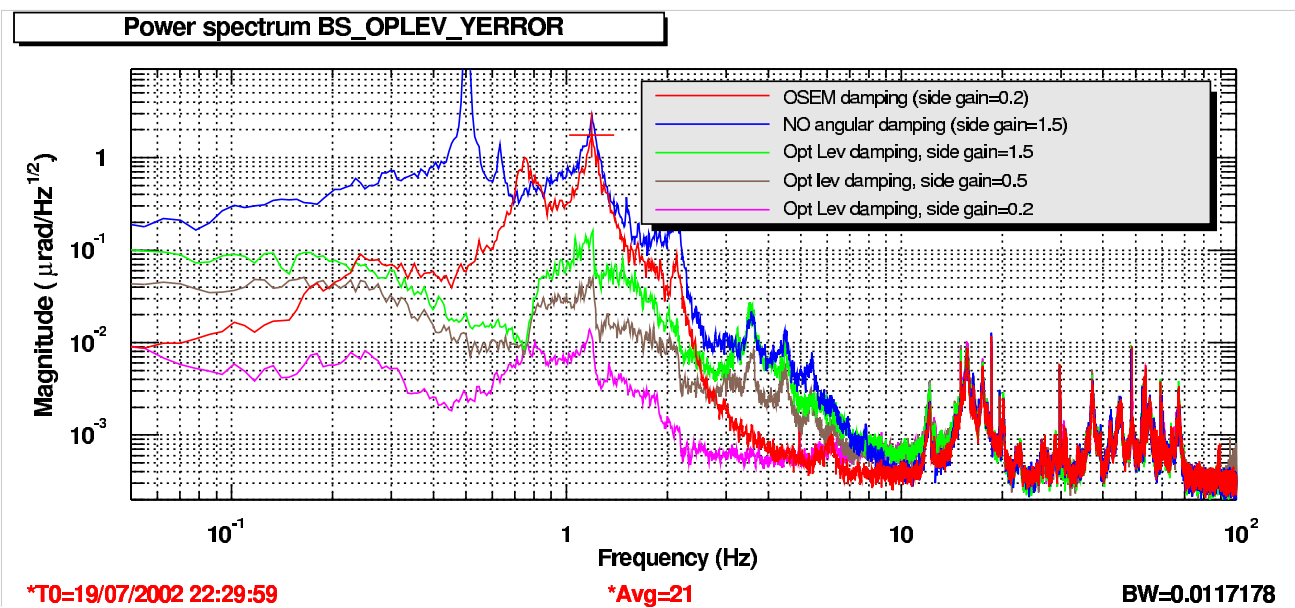
Ed Daw's blrms (band-limited rms) on seismometers;  
band 1-3Hz : "anthropogenic band".

# Angular motion at different times:

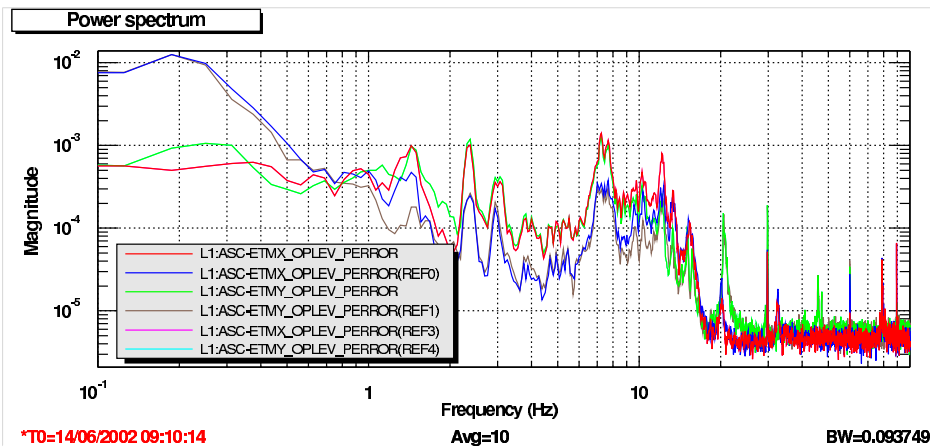


# Side-to-yaw coupling

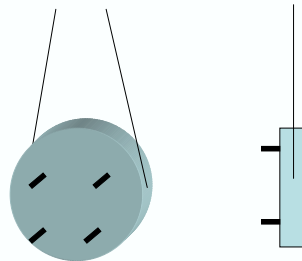
Some mirrors suffer this effect more than others...



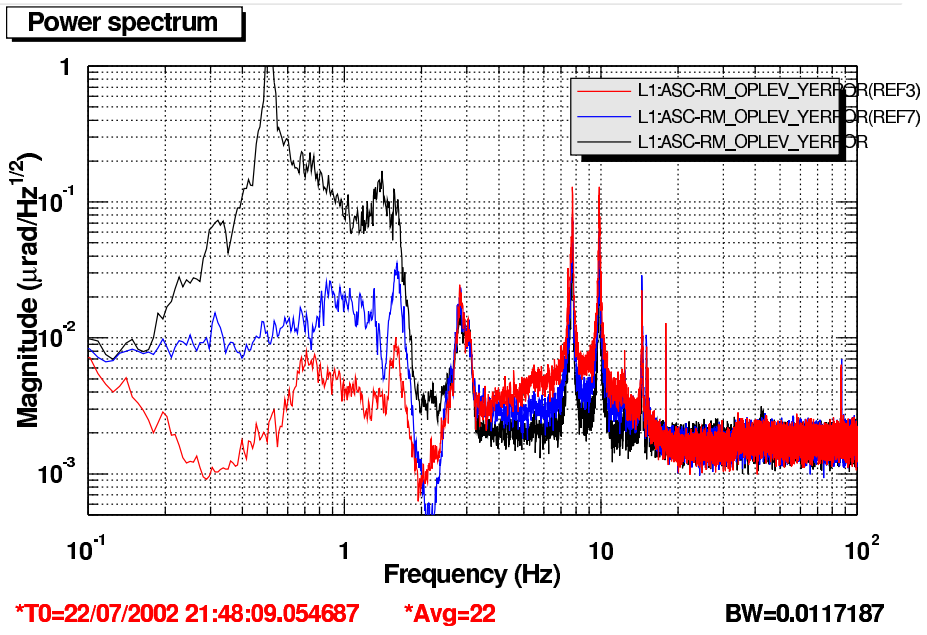
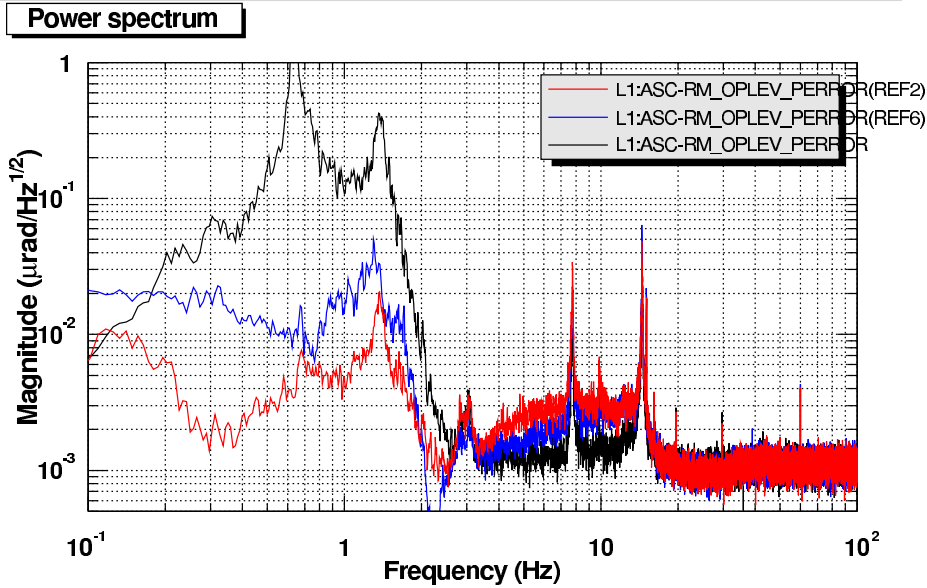
## Mirror diagonalization: which frequencies?



Done at low frequencies now, harming noise at stack resonances. Can be done at ALL frequencies with digital controllers.

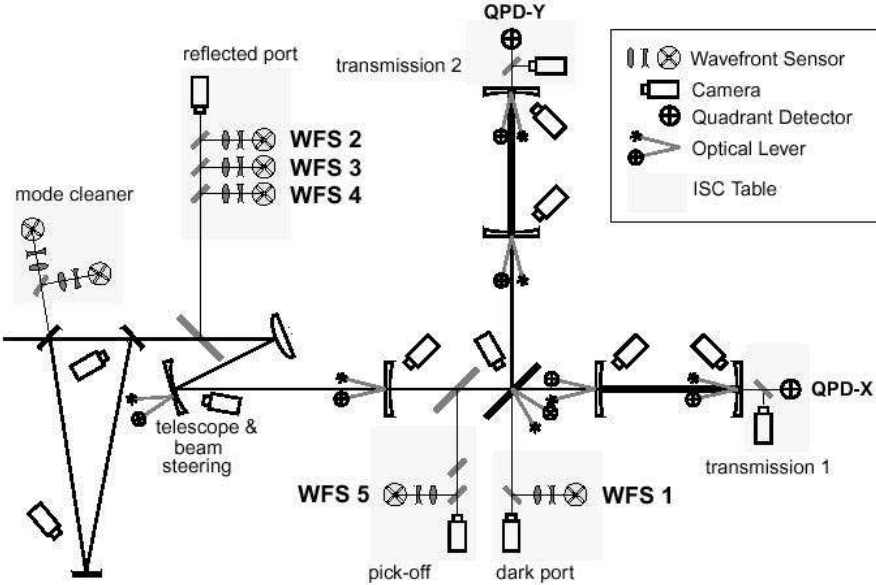


# Optical lever control: optimization



Work always in progress (Rana Adhikari)

Ultimate control:  
interferometric wavefront sensors





So far, only WFS1 in place...

