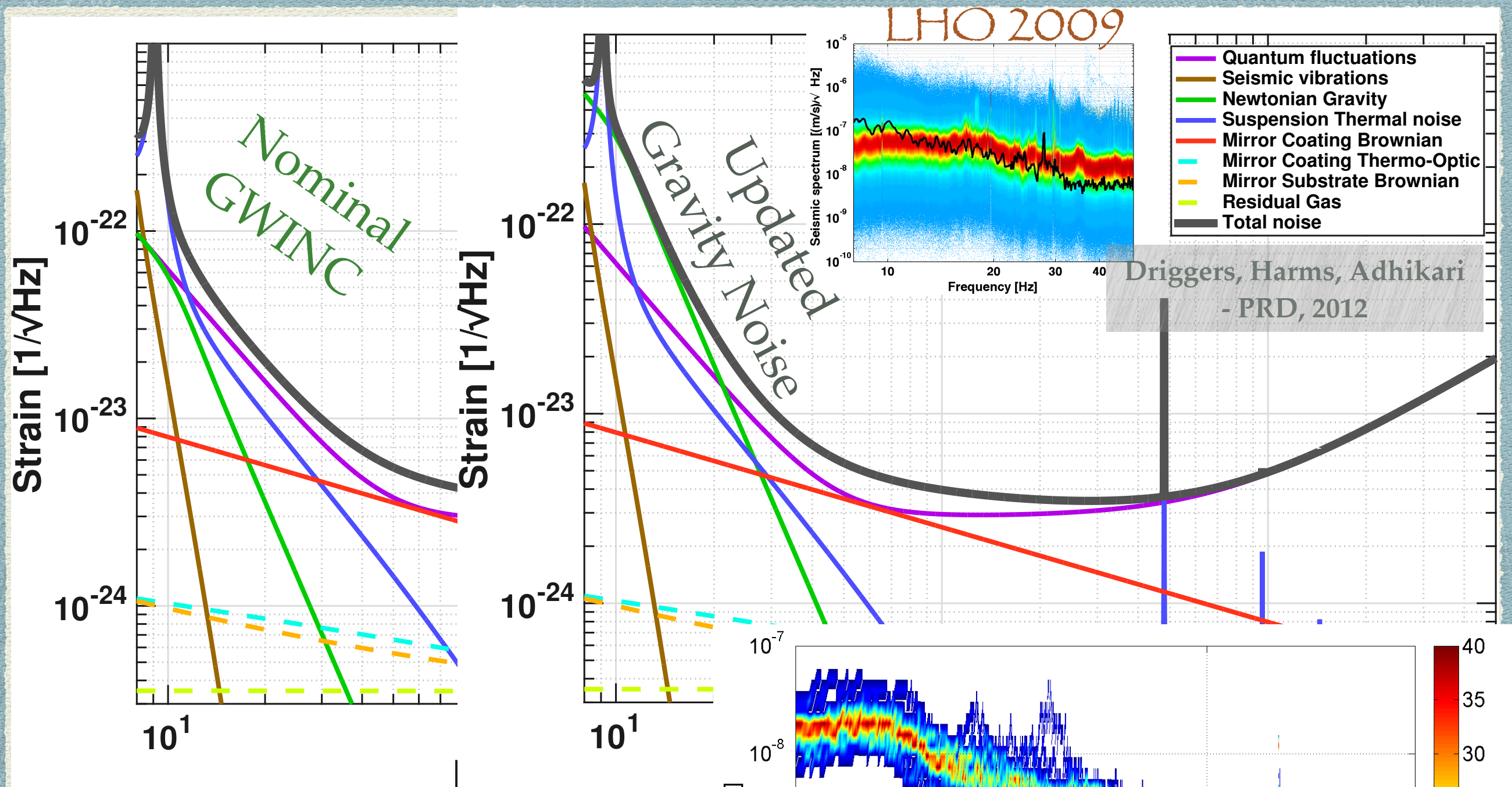


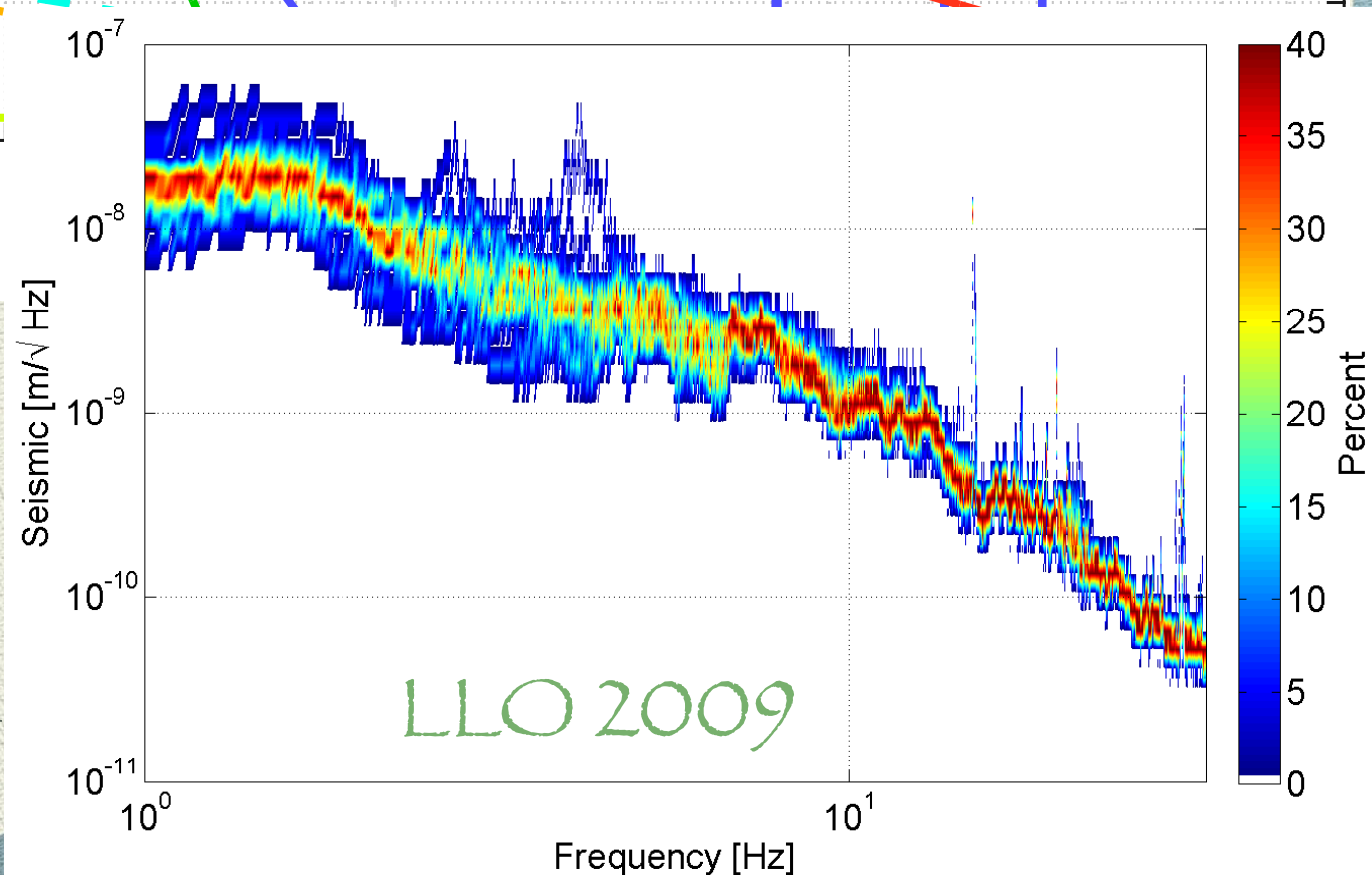


Extra Material





1. Ground noise estimate updated with 2005-2007 LHO data
2. Change in wave correlations, based on array measurements
3. Test mass height is ~2 m above ground (not ~0 m)

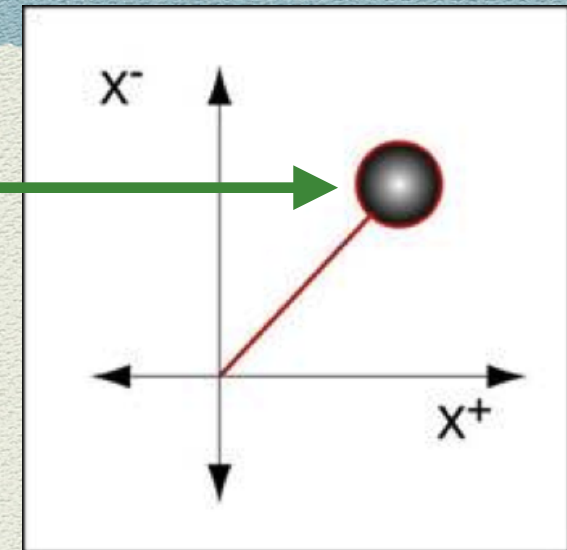




# What about Scattered Light?

- \* Light from somewhere gets to the readout photodiode

Modulated light with a random static phase, will contribute to both amplitude and phase noise



- \* Light from the chambers / tubes / detectors enters the arm cavity mode.

- \* Scattering in the arm cavities appears as index of refraction fluctuations

Backscatter in the arm cavities and SRC makes **radiation pressure noise** and gets worse with higher laser power

“Scattered Light Noise in LIGO”, Flanagan & Thorne, <https://dcc.ligo.org/LIGO-T950132>

“Scattered Light in aLIGO”, Ottaway, Fritschel, Waldman, <https://dcc.ligo.org/LIGO-P1100117>