

LIGO Optical Layout, L1 or H1
With Seismic Isolation and Suspension Systems
aLIGO and A+ O4C Configuration
G1200071-v10
J. Kissel May 16 2025

- Main Beam
- Elevated Main Beam
- Squeezed Beam
- Collinear Beam

- Periscope
- Fixed Optic
- Radio-Frequency Photodiode
- Audio-Frequency Photodiode

- BSC ISI + HEPI
- HAM ISI + HEPI
- HAM ISI + FF L4Cs + HEPI
- HAM ISI + FF L4Cs + ESS
- Test Mass **Quad** Sus (QUAD)
- Beam Splitter / Folding Mirror **Triple** Sus (BSFM)
- HAM Large **Triple** Sus (HLTS)
- HAM Small **Triple** Sus (HSTS)
- Transmission Monitor & Telescope **Double** Sus (TMTS)
- Output Mode Cleaner **Double** Sus (OMCS)
- HAM (X = M2 Actuator Type) **Double** Suspension (H[X]DS)
- Output Faraday Isolator **Single** Sus (OFIS)
- Optical Parametric Oscillator **Single** Sus (OPOS)
- HAM Auxiliary **Single** Sus (HAUX)
- HAM Tip-Tilt **Single** Sus (HTTS)

[X] { Simple
Piezo
Thermal
Dither

