

Technology Survey 2024	Feasibility	Relevance				
		LF	HF	BB	Stability	Accuracy
Average Feasibility x Relevance		2.90	4.38	3.22	2.78	4.00
High power laser	3	0	2	1		
Use of different wavelengths	3	1	1	1		
Multi-carrier injection	0	1	1	1		
Frequency-independent squeezing	5	0	2	0		
Frequency-dependent squeezing	5	1	0	2		
Birefringence compensation	2	0	1	1	1	
Large beam	3	0	0	2		
Large sapphire mass	2	2	0	2		
Silicon test mass	1	1	0	1		
Use of different materials for substrate	0	1	0	1		
Composite mass	0	1	0	1		
Parametric instability mitigation	5	0	2	1	1	
Thermal compensation system	5	0	2	1		
Use of different materials for coating	2	0	0	2		
Non-TEM00 beam	3	0	0	1		
Non-cylindrical mass	0	1	0	1		
Khalili cavity	1	0	0	1		
Gratings	2	0	0	1		
Radiative cooling		1	0	1		
Reducing vibration of cryogenic components	3.5	2	0	0		
Sapphire blade spring improvement	2	2	0	1		
Use of ribbons	2	1	0	1		
Use of long fibers	1	2	0	1		
High conductivity fibers		1	2	1		
Large beam splitter	5	0	1	1		
Low-loss Faraday isolator	5	0	2	2		
Low-loss OMC	5	0	2	2		
Low-loss PD	3	0	2	2		
Adaptive control for better seismic isolation	4	2	0	0	1	
Better damping control	4	2	0	0	1	
Low-frequency vibration isolation	3	2	0	0		
Suspension point interferometer	3	1	0	0	1	
Vertical suspension point interferometer	0	1	0	0		
Newtonian noise studies and cancellation	2	2	0	0	1	
Environmental magnetic noise sensors	5	1	0	0		
Charge noise reduction	0	1	0	0		
Instrumented baffles	3	1	0	0		
Schumann resonance	5	1	0	0		
Thermal noise in non-equilibrium steady state	3	1	0	0		
Gravitational decoherence noise	0	0	0	0		
Phase camera	5	1	0	1		
Machine learning	5	1	1	1	1	1
Noise subtraction methods	5	2	1	1		

Laser induced desorption	0	0	1	1		
Quantum locking	3	1	0	0		
Homodyne readout	3	1	0	2		
Variational readout	2	1	0	1		
Optical spring	4	1	0	0		
Long-SRC	3	0	2	0		
Quantum expander	2	0	1	1		
Intracavity OPA	3	0	1	0		
White-light cavity	2	0	1	0		
PT symmetry	2	0	1	0		
Kerr amplification	2	0	1	0		
Photo-thermal effect	2	1	1	0		
EPR squeezing	3	1	0	1		
Quantum teleportation	1	1	0	1		
Negative effective mass	1	1	0	1		
Speed-meter	1	1	0	0		
Acceleration-meter	1	1	0	0		
Negative inertia	1	1	0	0		
Local readout	1	1	0	0		
Photon counting	2	0	1	0		
Delay line	4	0	0	1		
Displacement noise free interferometer	1	0	0	0		
L resonator	2	0	1	0		
Multi-color calibration	3	0	0	0		1
Tidal compensation using geophysics interferometer		0	0	0	1	
Earthquake monitors		0	0	0	1	