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E-test Update

E-TEST is a low-frequency suspension prototype developed for the Einstein Telescope, featuring a 100-kg test mass cooled to cryogenic temperatures (20–25 K) through radiative cooling techniques. The prototype is designed to provide compact seismic isolation at low frequencies (<10 Hz) while minimizing thermal noise, addressing the critical noise sources for next-generation gravitational-wave detectors. It is experimentally actively isolated, with promising results in suppressing seismic disturbances at low frequencies. In addition, cryogenic sensors and electronics are integrated to monitor vibrational motion in the penultimate cryogenic stage. E-TEST serves as a crucial R&D platform for advancing suspension technologies and defining the technical design for the Einstein Telescope.

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