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Compact isolation of a large mirror at low frequency

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The study presents the updates and challenges of compact isolation of a large mirror (100 kg) at low frequency (below 10 Hz). The isolator consists of mounting a passive inverted pendulum platform (IPP) on an active inertial platform (AP) and suspending multiple cascaded pendulums from the IPP. The new approach results in a very low resonance frequency (0.07 Hz) and provides ultra-low frequency seismic isolation. On the other hand, several challenges need to be addressed such as the coupling of IPP with AP.

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