

## Comparison of seismic noise in ETpathfinder and VIRGO

This study investigated the Newtonian noise level in the ETpathfinder facility and the VIRGO gravitational wave detector. Identical seismic and infrasound measurement systems were installed at both places, which allowed comparison of noise levels in the frequency range of approximately 4 to 30 Hz for seismic noise and 1 to 30 Hz for infrasound. This research contributes to developing more effective noise mitigation systems for future gravitational wave detectors by analyzing noise profiles. Additionally, the measurements carried out allow for assessing the effectiveness of noise mitigation techniques currently used in ETpathfinder.

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