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# Field Test of 12 serially connected FBG accelerometer parallelly with the vertical sensor of 4.5 -Hz geophones.

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Fibre Bragg Grating (FBG) sensors are widely used for measuring vibrations in the fields like seismology and civil engineering. FBG sensors possess several advantages when compared to the traditional vibration sensors like immunity to electromagnetic interference, multiplexing, miniature size, higher sensitivity. Highly sensitive systems are required for capturing the seismic vibrations with low magnitude of acceleration. In this work a cost-effective cantilever based FBG accelerometer is developed. The structure is modelled using the software Solid Works and fabricated with PLA by 3D printing. Finally, a comparison test was carried out by serially connecting 12 FBG accelerometers parallelly to common vertical 4.5-Hz geophones outside the lab environment. Hammer shots were acquired along the tested line and the experimental results from both the systems were analysed and compared. The FBG system demonstrated here is suitable for seismic field acquisitions with potential applications to seismic refraction surveys, surface-wave analyses and passive seismic recordings.