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Environmental Seismology

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Ambient noise is made of seismic waves whose sources are not controlled, and provides a continuous excitation of the material at test : the subsurface. When operated together, ambient seismic noise correlation, passive image interferometry, seismic doublets and coda waves interferometry are techniques that can monitor very tiny mechanical changes occurring in the subsurface. These changes develop as variations of apparent seismic velocity, which are connected to external forcing including: temperature, moisture and hydrological content... Internal forcing include tectonic, stress, damage and aging... In this paper we will review different examples of application of ambient noise monitoring in different domains and scales, including rock fall , landslides, basin, ...