

Passive Seismic Interferometry: Imaging Subsurface Structure and Temporal Changes

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RESUMEN

Passive seismic interferometry is a still rather new tool in seismology which has found widespread applications in recent years. Its base is the cross correlation of ambient seismic noise between sensors over an extended time period, from which the Green's function between receiver pairs can be retrieved. Therefore, images of the subsurface can be obtained without the need to use active seismic sources. This technique is now almost routinely applied for structural investigations of the Earth's interior.

Secondly, a continuous monitoring of changes in the subsurface can be performed that makes use of the repeated retrieval and comparison of Green's functions in order to precisely infer changes in the medium that occur with time. This method is capable of identifying seismic velocity changes in the order of 0.1 per cent.

Some applications on different scales are presented that show the potential of this approach. Their scales range from observations of co-seismic changes and volcano monitoring to reservoir monitoring and material testing.

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Auditorio Alamiro Robledo
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