



Source-Receiver Interferometry

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The now commonly used method of Inter-Receiver Interferometry allows us to produce seismogram approximations as though one receiver of each receiver pair had been a source which was recorded by the other receiver. Applying reciprocity to the underlying theory produces the method of Inter-Source Interferometry which produces the seismogram as though one source of each pair of sources had been a receiver that recorded the other source. By combining these methods, it has been shown that interferometry between a source and a receiver is also possible, producing the corresponding source-to-receiver seismogram even if that seismogram had not been recorded by the receiver.

This talk will analyse these various approaches. In particular it will show that the latter method of Source-Receiver Interferometry also provides new ways to construct inter-receiver seismograms, and that the method may also make it possible to directly locate an earthquake using a rapid-response, local seismometer array installed -after- the event took place.