On relation of SPAC method with Seismic Interferometry

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Comparison of theoretical background of SPAC method with that of Seismic Interferometry shows that the former is considered as an example of usage of the latter in the long wave length range and that Seismic Interferometry theoretically supports non-standard way of SPAC method. In the condition preferable for the standard way of SPAC method (horizontally layered media, single mode dominance, azimuthal average for SPAC coefficient etc.), it is fully consistent with SI, the only difference of which is that the complex coherence function has its physical meaning in the context of SI, *i. e.*, the Green's function between two observation points normalized by the zero offset Green's function. Theoretical consideration based on SI suggests that the estimated phase velocity in case of the mixture of the fundamental mode with the first one having small power is slightly higher than its true value. Our experience of field experiment that mutually similar complex coherence functions for six azimuths were obtained for the microtremor of which frequency wavenumber spectra show a strong dependence on azimuth, can be positively interpreted in the context of SI, but can not in that of SPAC method.