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The Applicability of harmonic spherical Splines to seismic Surface Wave Tomography

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In this presentation the applicability of harmonic spherical splines to seismic surface wave tomography is demonstrated. The discussed method combines the well-known theory of spherical harmonics with the localization of spline basis functions. For the purpose of the application the known real harmonic spherical splines by W. Freeden are extended to their complex analogue to be able to apply a formula of surface wave tomography involving complex spherical harmonics. Some numerical results, a global recovery and a local recovery at Australia, are demonstrated for Rayleigh waves at period 80s. It turns out that this method yields reasonable results for global as well as local applications.