Supplement of Solid Earth, 13, 659–679, 2022
https://doi.org/10.5194/se-13-659-2022-supplement

Solid Earth Open Access EGU

Supplement of

Radial anisotropy and S-wave velocity depict the internal to external zone transition within the Variscan orogen (NW Iberia)

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Description

Figure S1 shows examples of multiple filter analysis (MFA) surfaces, from which dispersion curves are extracted. Figure S2 depicts sets of sequential stacks of daily cross-correlation functions (DCCF) and illustrates the stabilization of the dispersion measurements as the number of stacked DCCF increase. Figure S3 and S4 exemplify the recovery of three synthetic chequerboard models by the Rayleigh and Love inter-station raypaths, respectively. Figure S5 displays all the S-wave inverted models at each grid node and the sensitivity kernels of the inversions.

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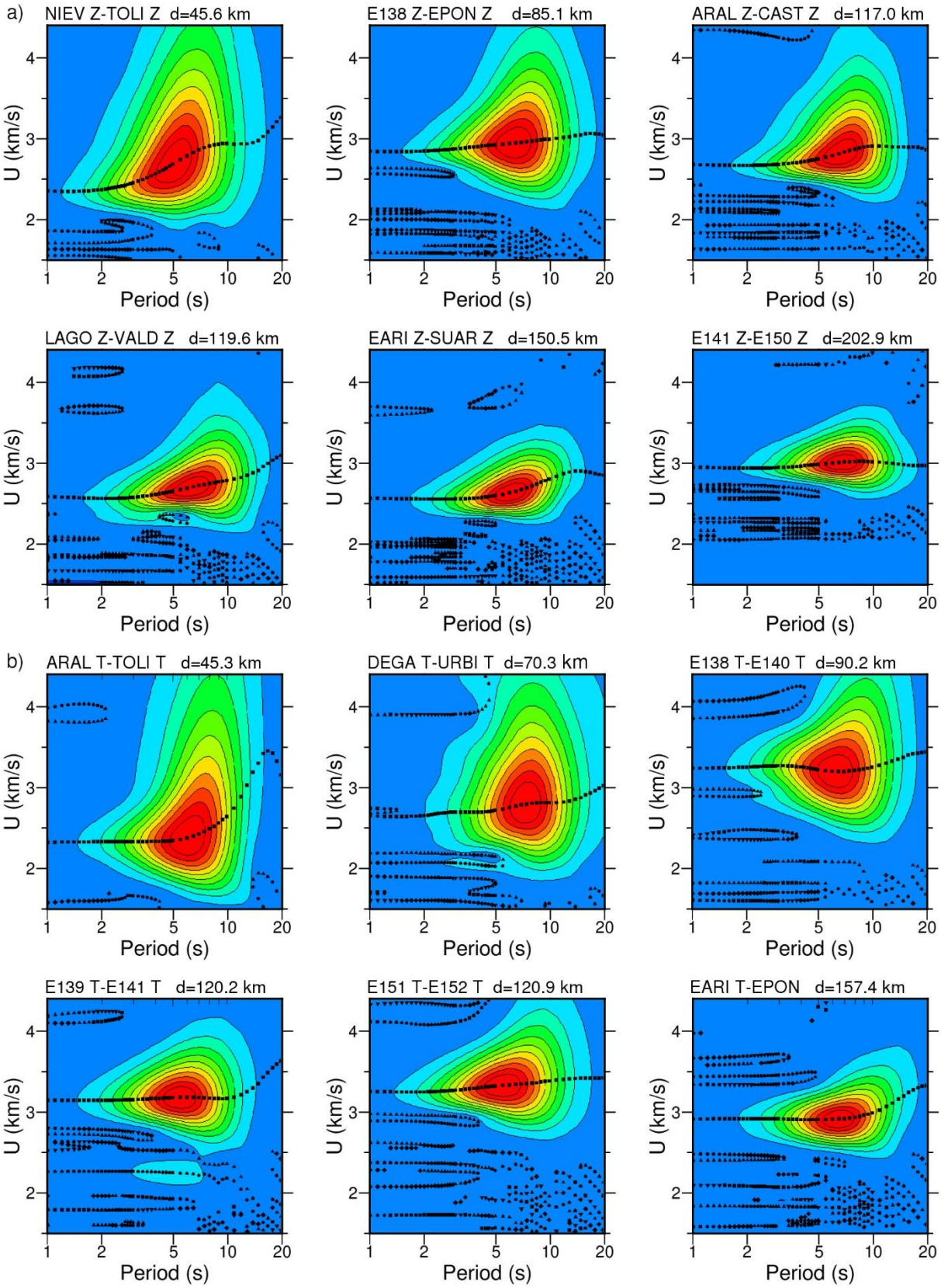
Figure S1. Examples of MFA surfaces calculated from a) vertical- (Z) and b) transversal-component (T) empirical Green's functions (EGF), showing the fundamental mode Rayleigh- and Love-wave group velocity dispersion curves, respectively.

Figure S2. Examples of stacks of sets of 60, 90 and all the available daily cross-correlation functions for the CAST-OLES and E150-E151 inter-station paths (left panels). The central panels display the dispersion curves computed from the stacks of the left panels. The right panels show the dispersion measurements obtained from 10 stacks calculated from the randomly selected 75 per cent of all the available DCCFs for an inter-station path.

Figure S3. Recovery of synthetic chequerboard models with three different cell sizes (20x20 km, 30x30 km and 40x40 km) from the Z-Z inter-station raypaths at 4, 8 and 12 s periods. Panels at the top row show the initial models. Chequerboard resolution tests were performed using the same grid size and regularization parameters of tomographic maps. Triangles symbolize the location of seismic stations in Fig. 1.

Figure S4. Recovery of synthetic chequerboard models with three different cell sizes (20x20 km, 30x30 km and 40x40 km) from the T-T inter-station raypaths at 4, 8 and 12 s periods. Panels at the top row show the initial models. Chequerboard resolution tests were performed using the same grid size and regularization parameters of tomographic maps. Triangles symbolize the location of seismic stations in Fig. 1

Figure S5. Vsv and Vsh velocity models (left panels) inverted for each node of the grid (grey lines) and reference velocity models (black lines) obtained from the inversion of the average dispersion curves of the entire study area (Figs. 3e and 3f). Rayleigh and Love wave depth sensitivity kernels of the inversions (right panels).



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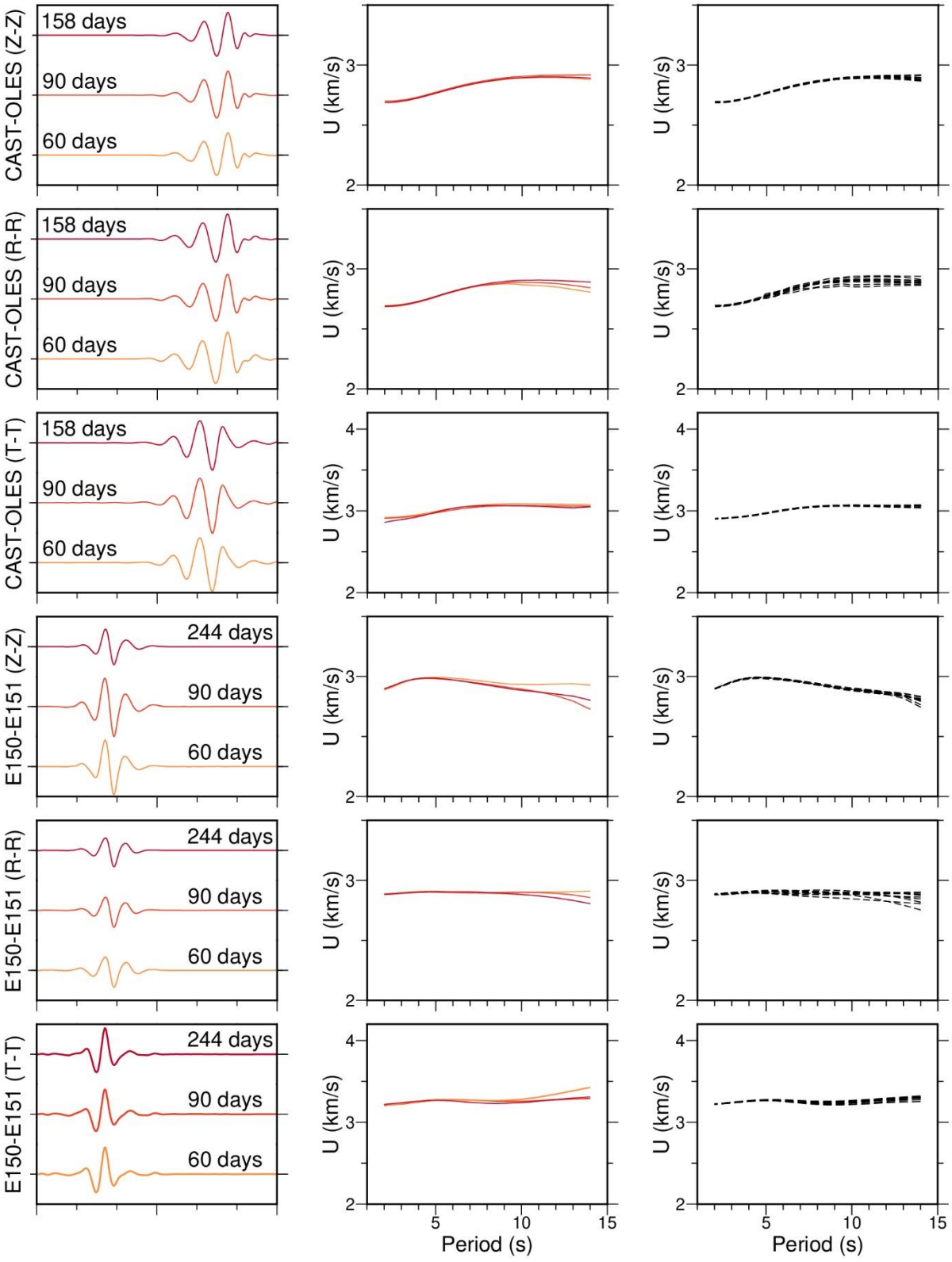

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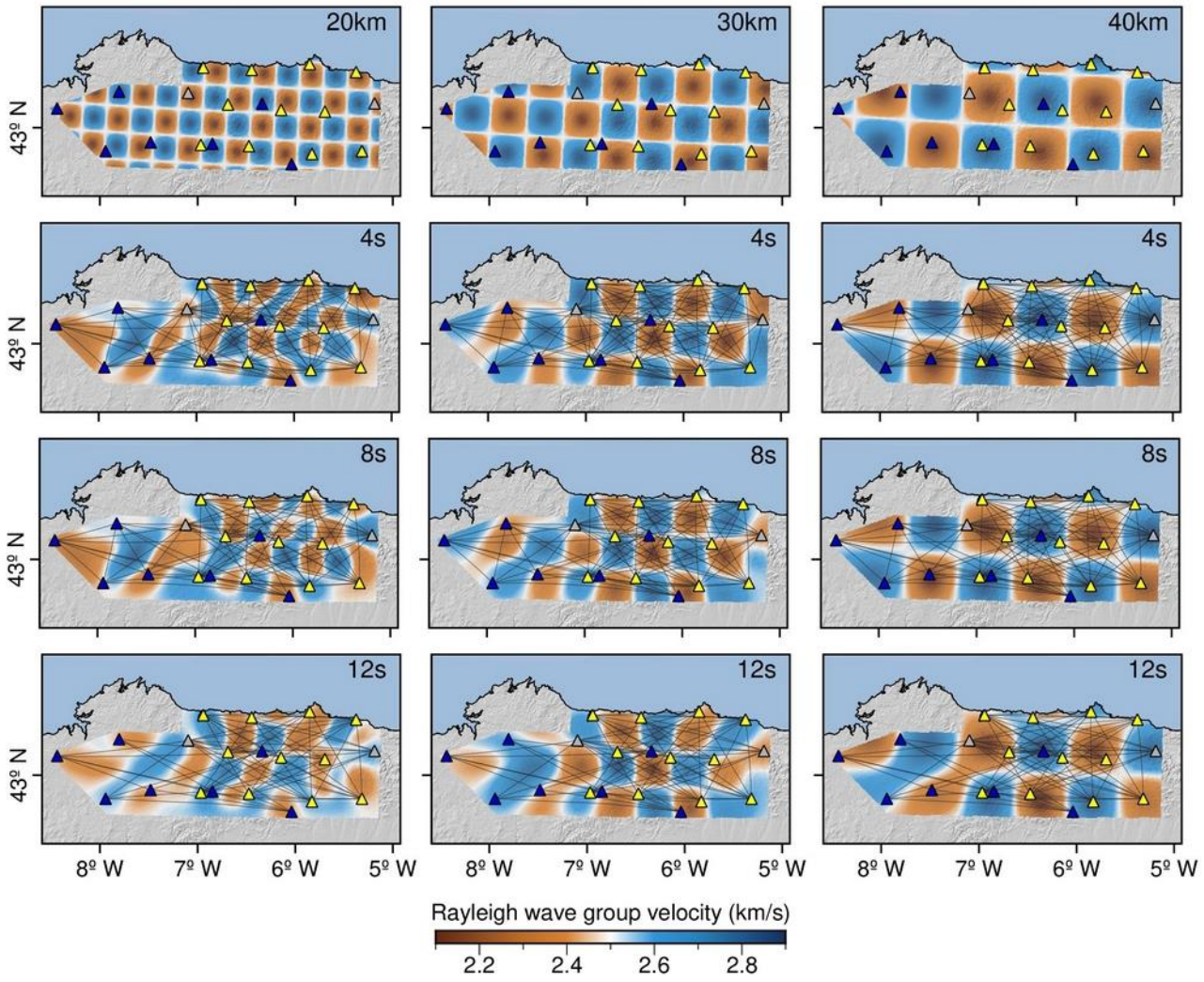

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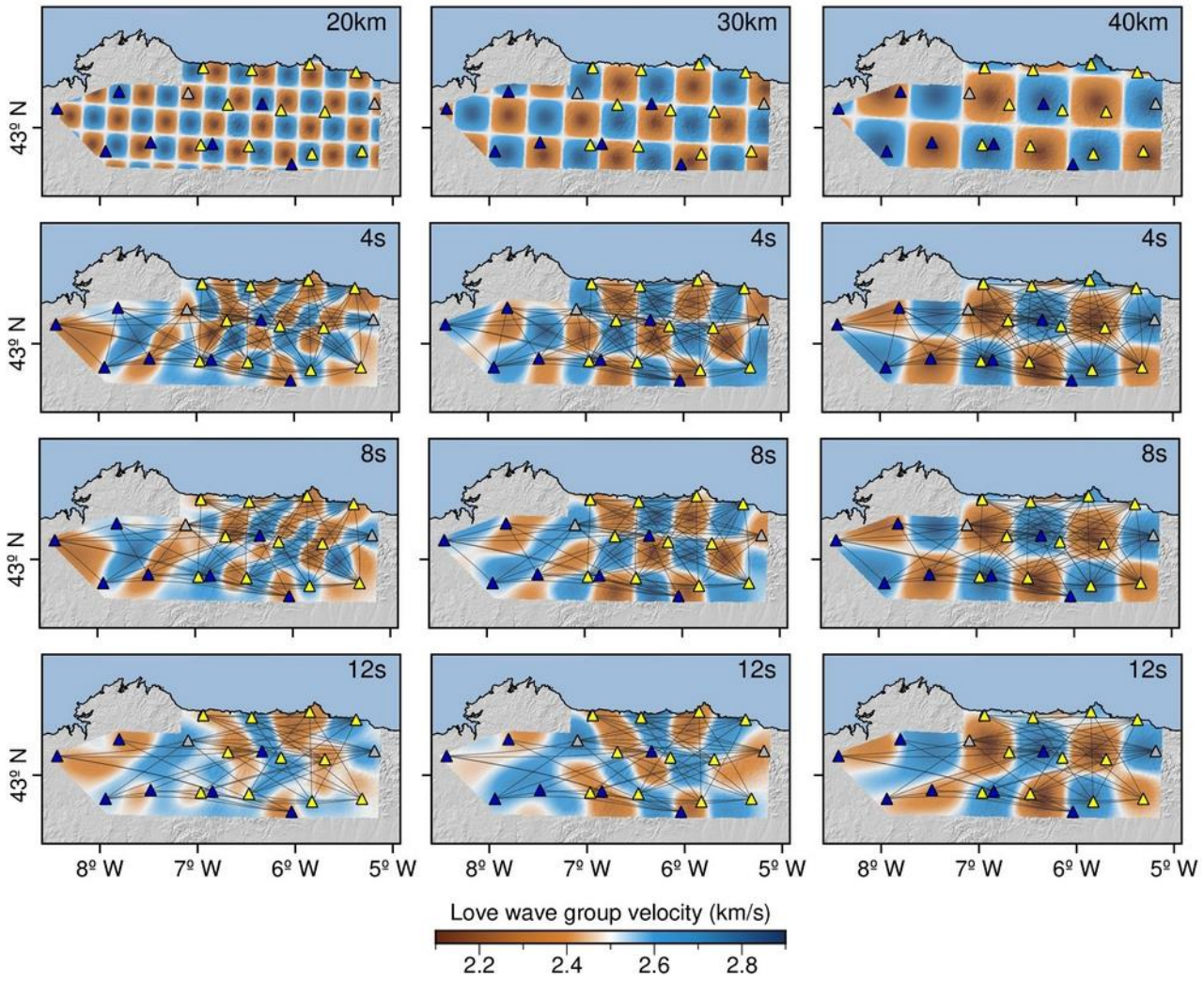

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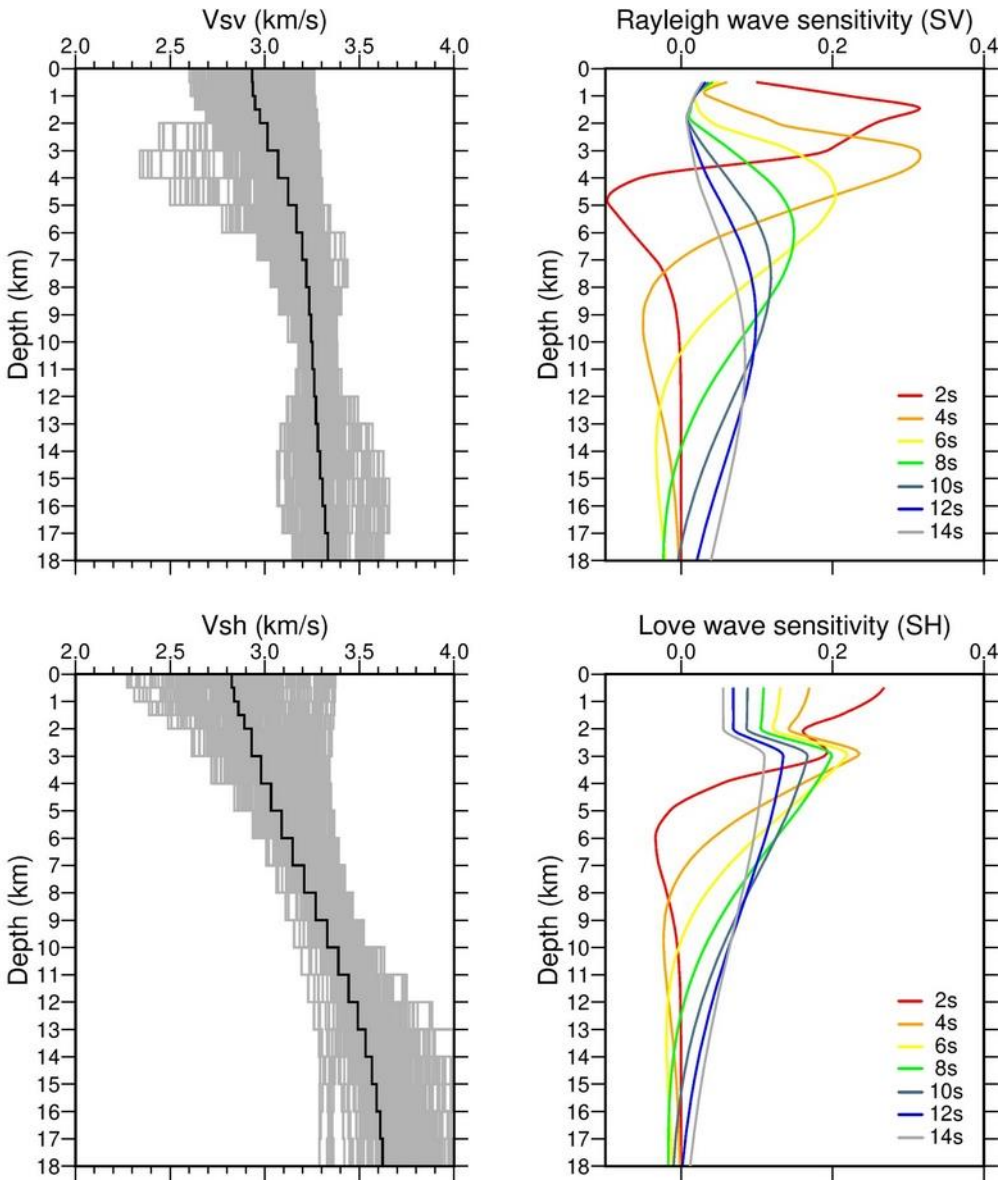

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