

submitted to *Geophys. J. Int.*

Supplementary Materials

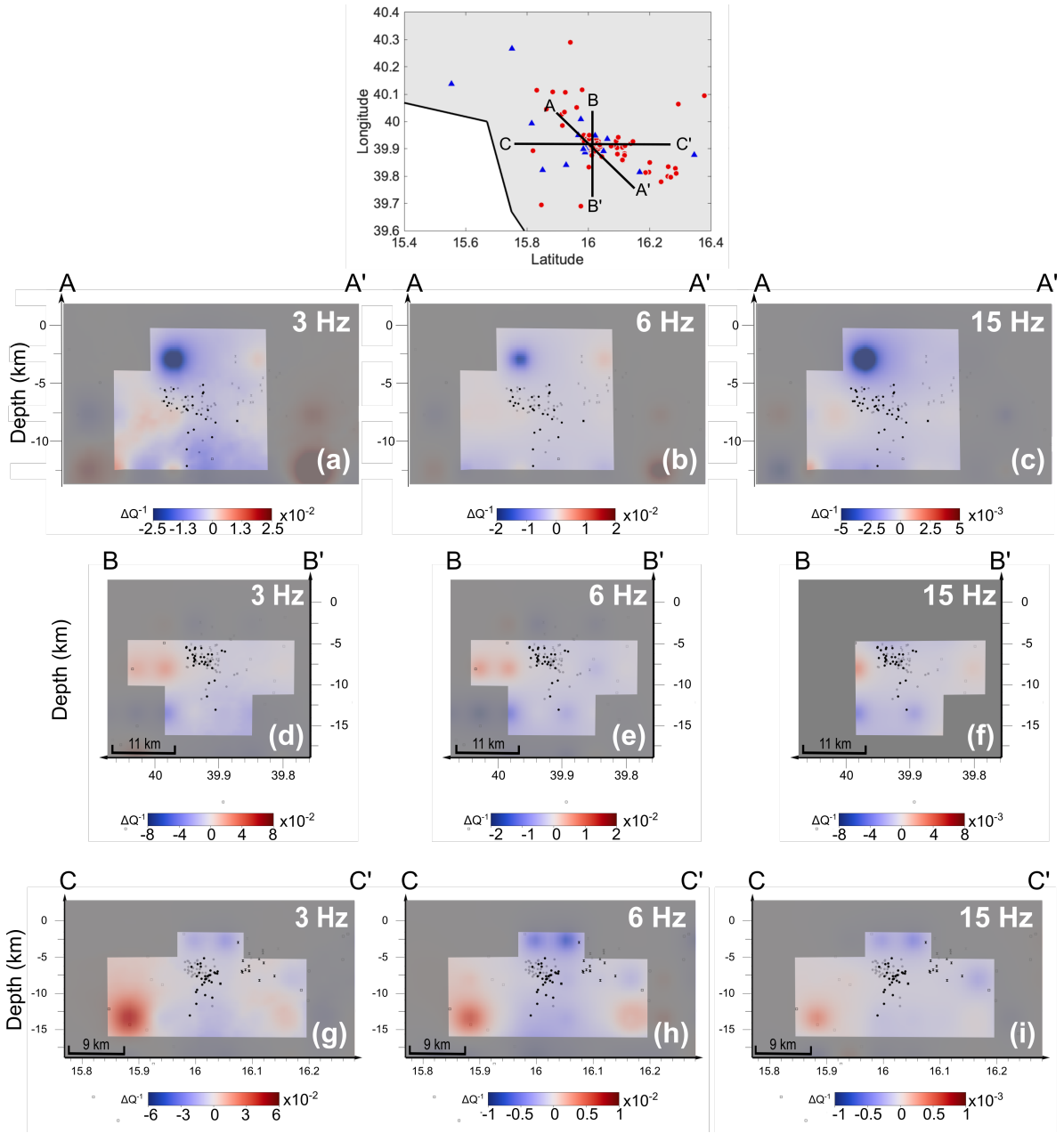


Figure 1. Cross-sections showing the ΔQ_P^{-1} variations at three frequency bands: 3, 6 and 15 Hz for Dataset 1. The top single panel shows a map of the area with the seismic events used in this study (red dots) and the seismic stations (blue triangles). Line AA' represents a NW-SE cross-section (second row panels). Line BB' represents a N-S cross-section (third row panels) and line CC' represents an E-W cross-section (bottom row panels), all of them taken through the main swarm. The black circle markers represent the events of the main seismic swarm, the hourglass markers represent the events of the secondary swarm and the open square markers represent the rest of the seismicity in the area. The grey areas are beyond our resolution power and they have been masked for simplification.

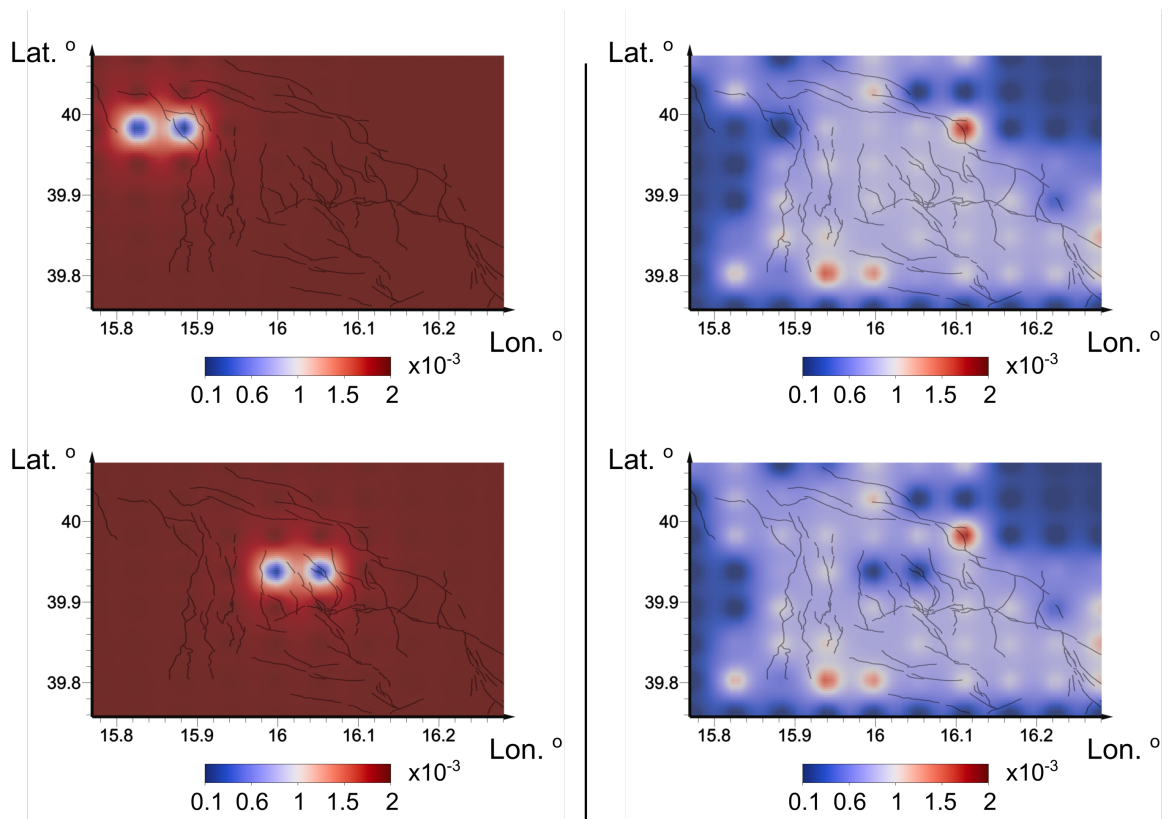


Figure 2. Input (right panels) and results (left panels) of two spike tests performed using Dataset 1 at a frequency of 3 Hz at 7.5 km depth. The black lines on the panels represent the main faults in the area, adapted from Brozzetti et al. (2017).

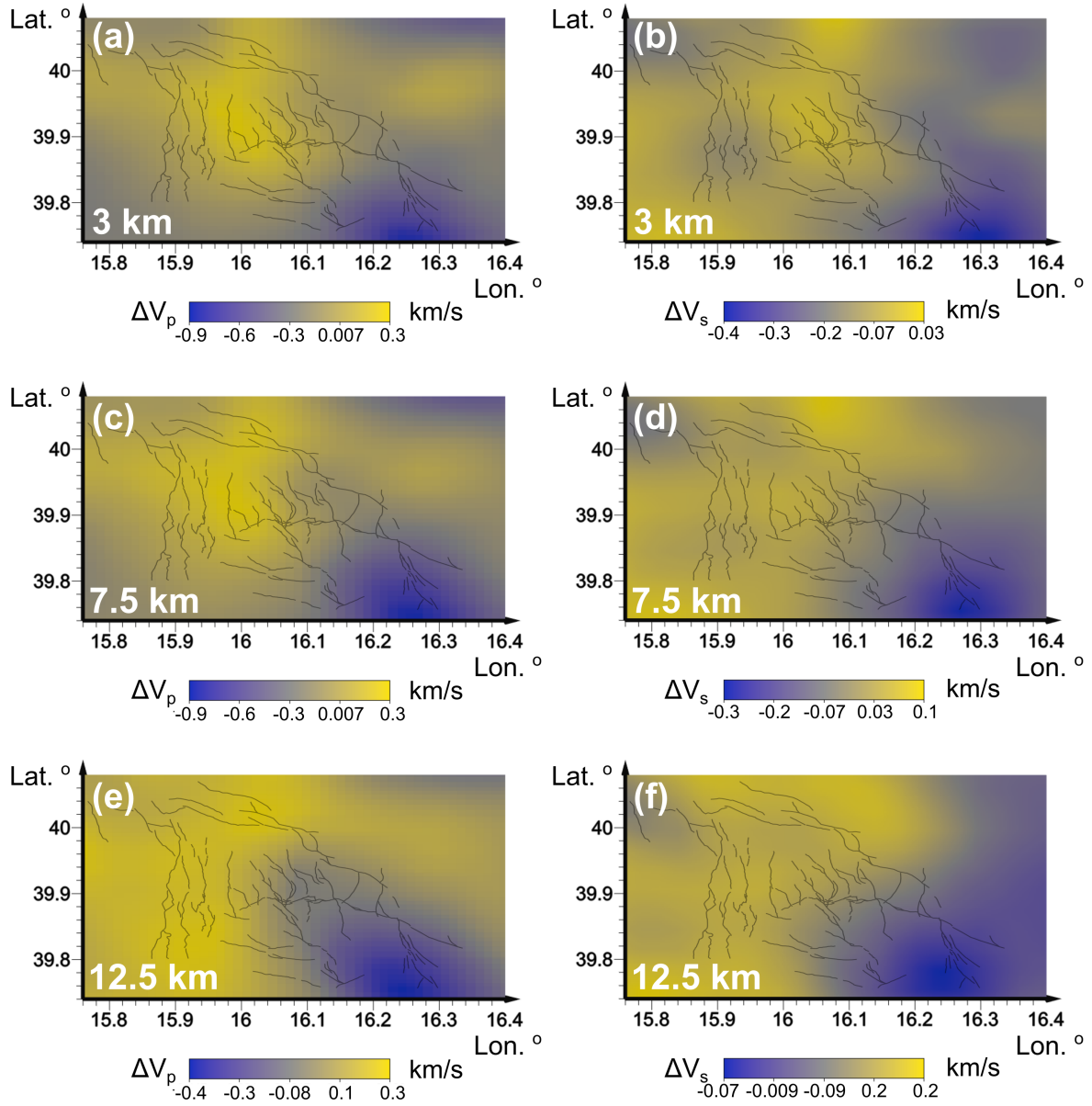


Figure 3. Cross-sections showing the ΔV_P (left column) and ΔV_S (right column) velocity structure in our area of interest at 3 km, 7.5 km and 12.5 km. The model has been adapted from Totaro et al. (2014). The depth is shown at the bottom left corner of each panel. The black lines represent the main faults in the area, adapted from Brozzetti et al. (2017).