



Supplement of

The crustal magma reservoir geometry and seismic activity beneath the Wudalianchi volcano in northeast China: implications for the multilevel magmatic system

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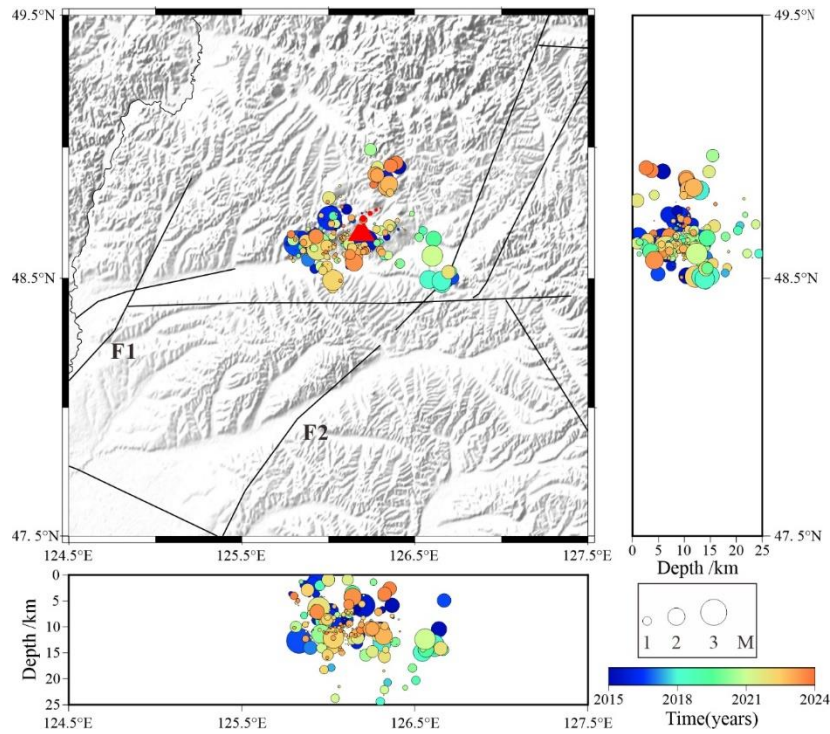


Figure S1: The temporal variation of the seismicity beneath the WDL volcano.
The circles represent the epicenters of the earthquakes and the sizes of the circles represent the magnitudes of the earthquakes.

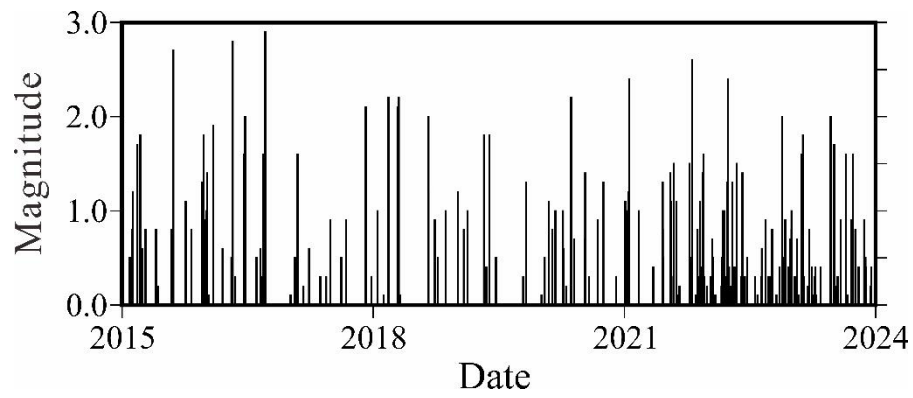


Figure S2: M-T diagram beneath the WDLC volcano from 2015 to 2024.

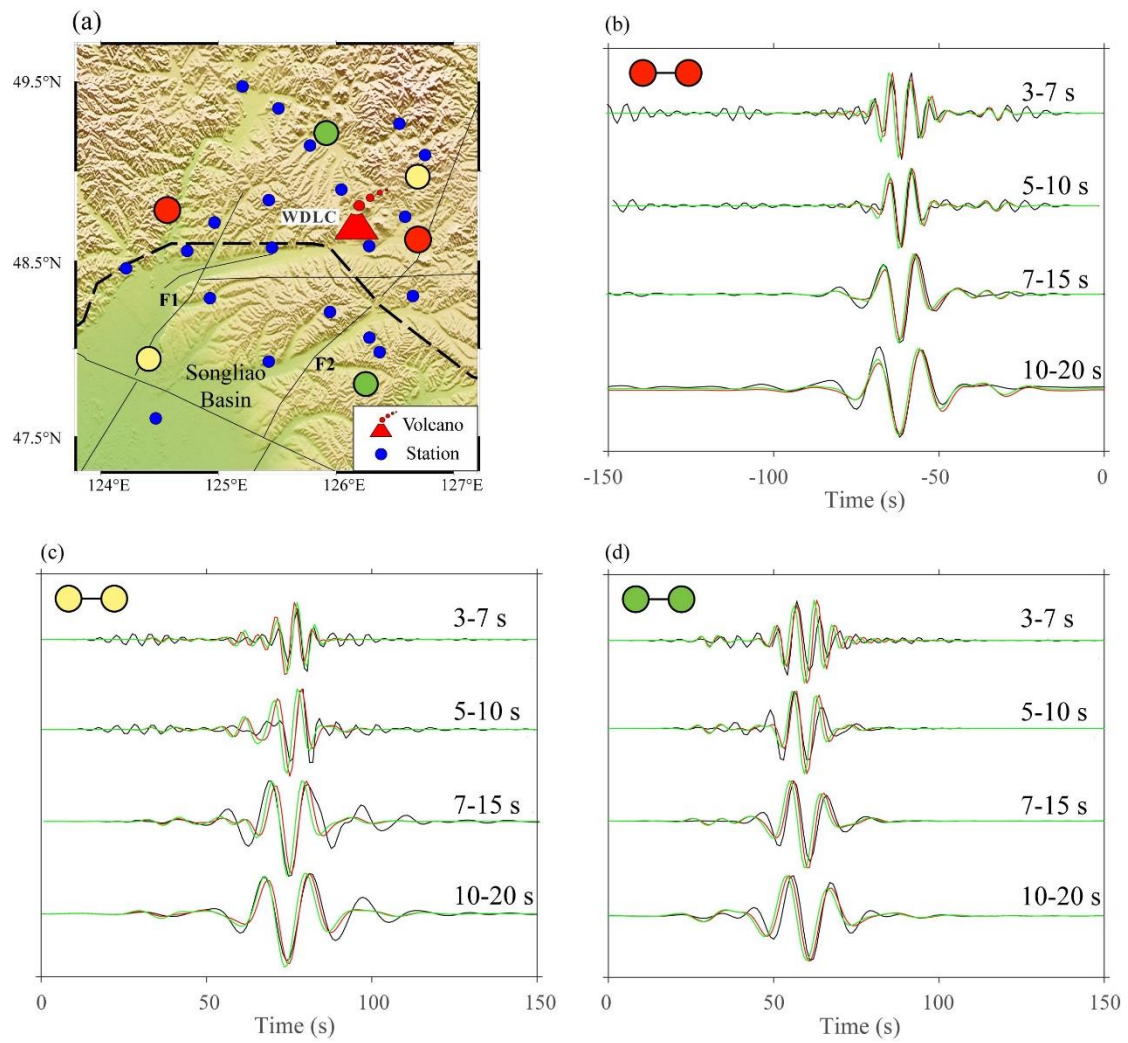


Figure S3: Waveform fitting between observed EGFs and synthetic waveforms at different period bands. The black, red, and green lines in (b) represent the observed EGFs, the synthetic waveforms from the final model and the initial model, respectively. The locations of each station pair are shown in (a).

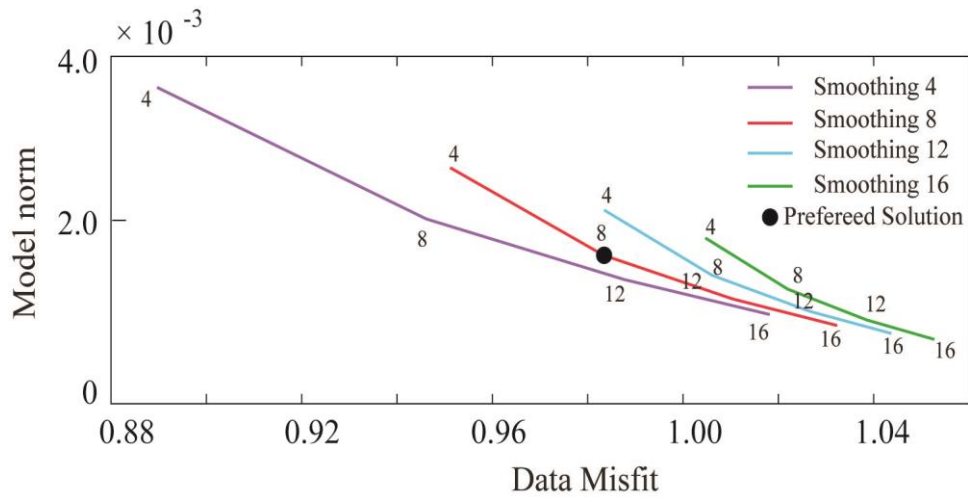


Figure S4: Model norm and data misfit for a set of smoothing (4, 8, 12, 16) and damping (4, 8, 12, 16) parameters in the final iteration. We select the damping and smoothing parameters based on the tradeoff curve between the model norm and the data misfit. The black dot represents the preferred parameters (smoothing = 8, damping = 8).

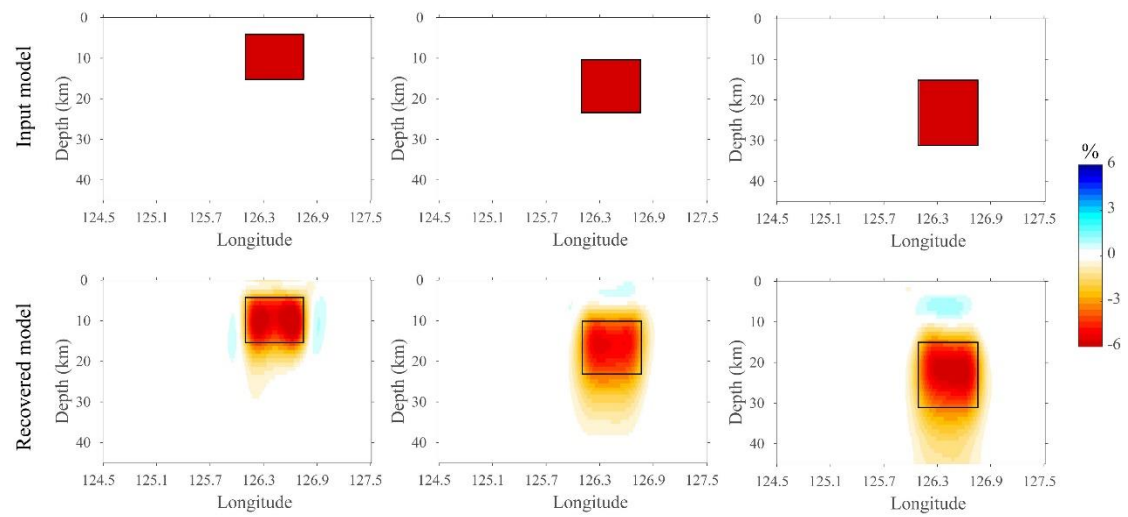


Figure S5: Model recovery test for the low-velocity zone at different depths body beneath the WDLC volcano.

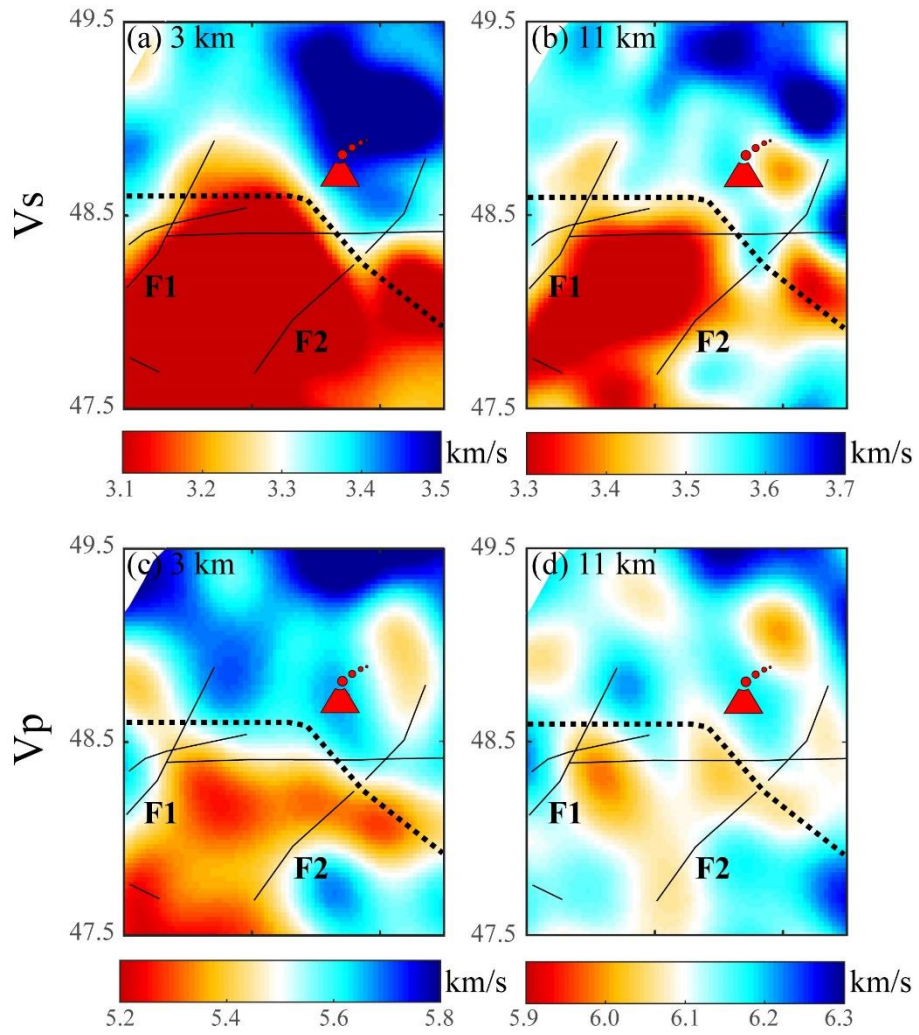


Figure S6: Comparison of Vs (top) and Vp (bottom) within our study region at depths of 3 km and 11 km, respectively.

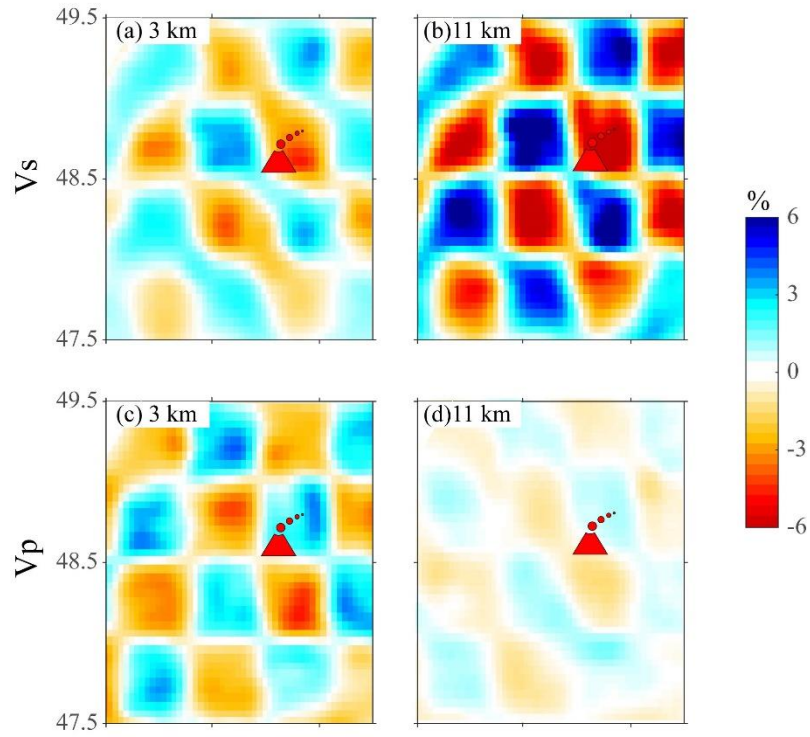


Figure S7: Comparison of the checkerboard resolution of Vs (top) and Vp (bottom) within our study region at depths of 3 km and 11 km, respectively.

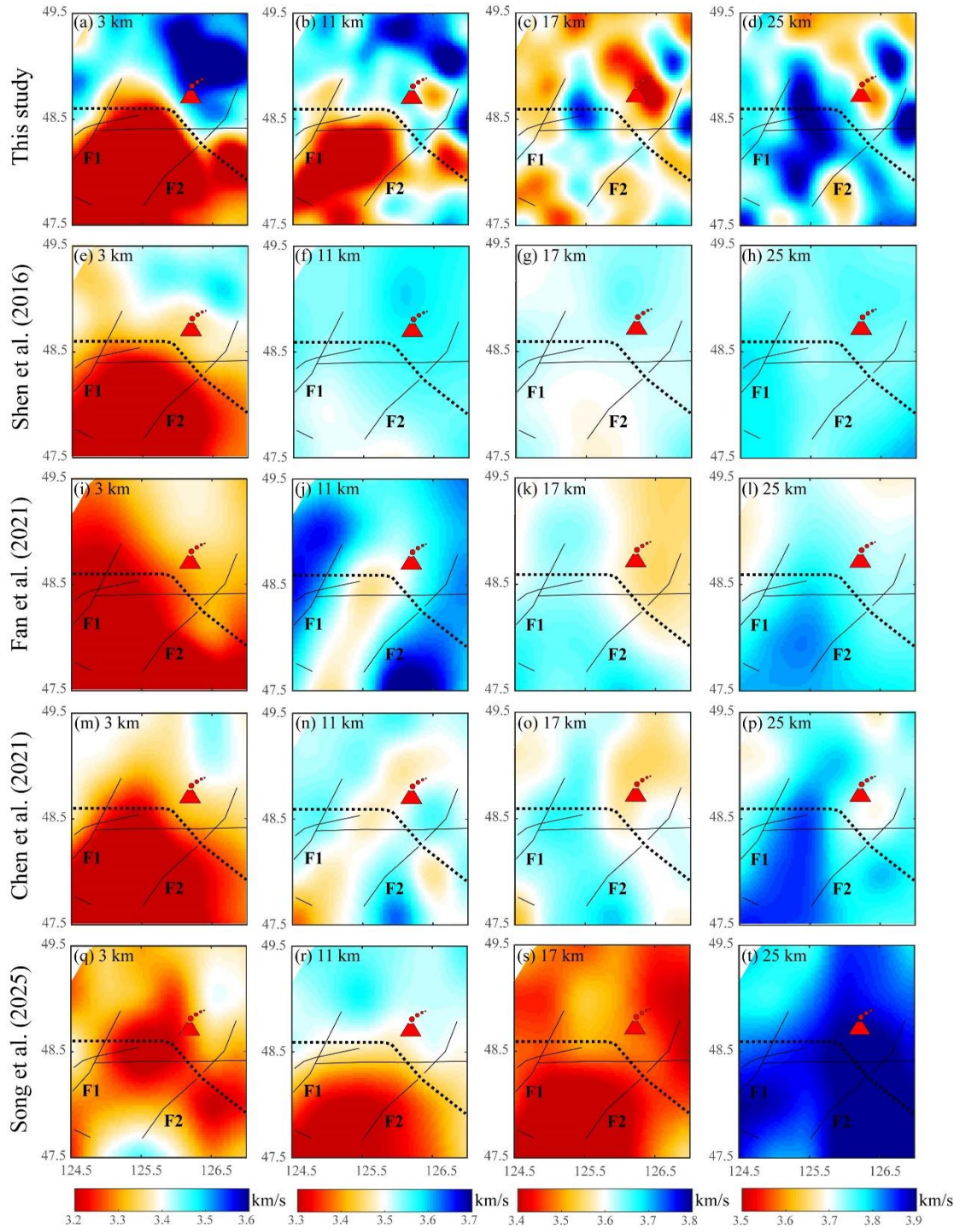


Figure S8: Comparison between our shear-wave velocity model and recent shear-wave velocity models at depths of 3 km, 11 km, 17 km, and 25 km, respectively. The symbols are the same as in Figure 6 in the main text.