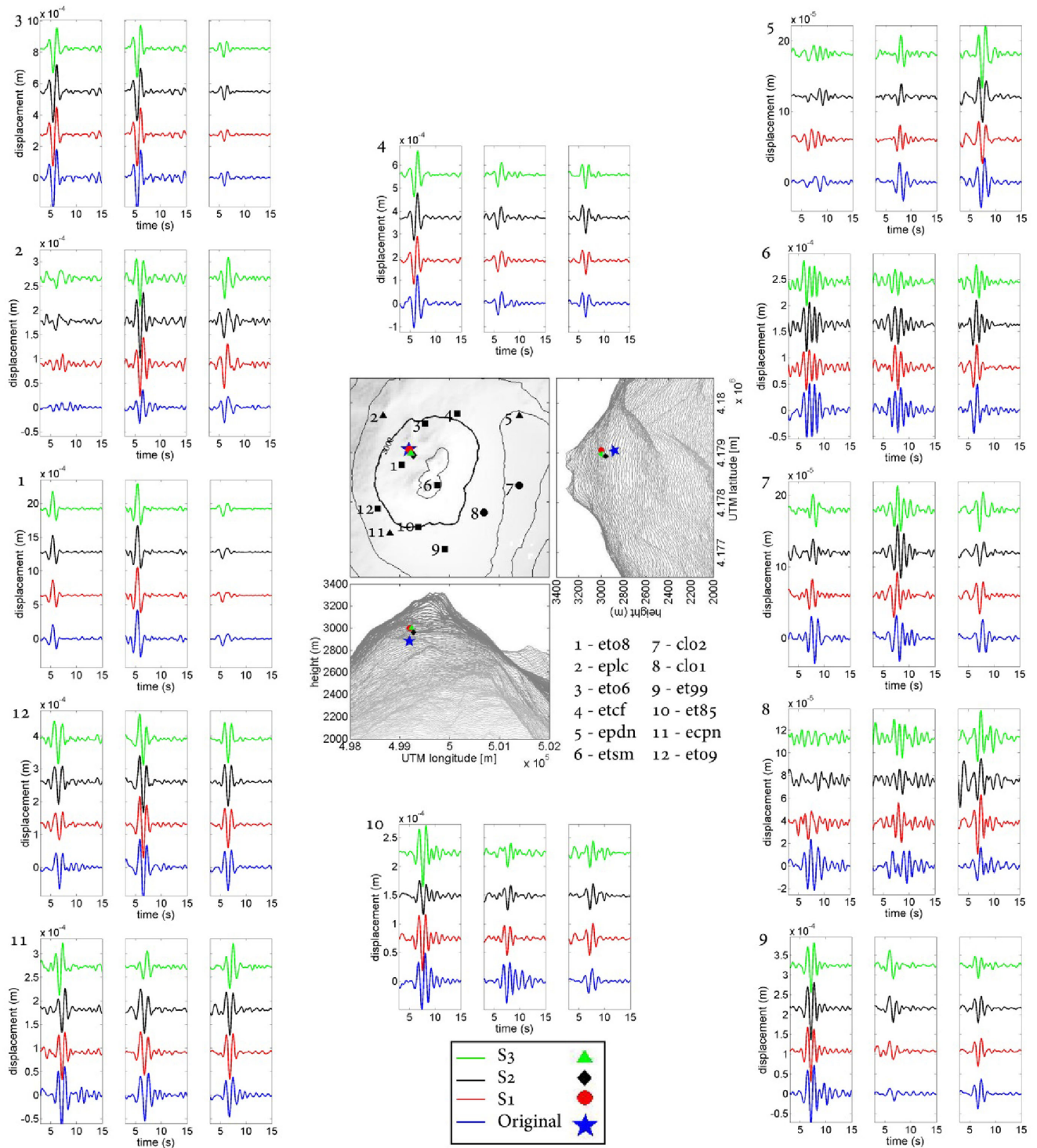


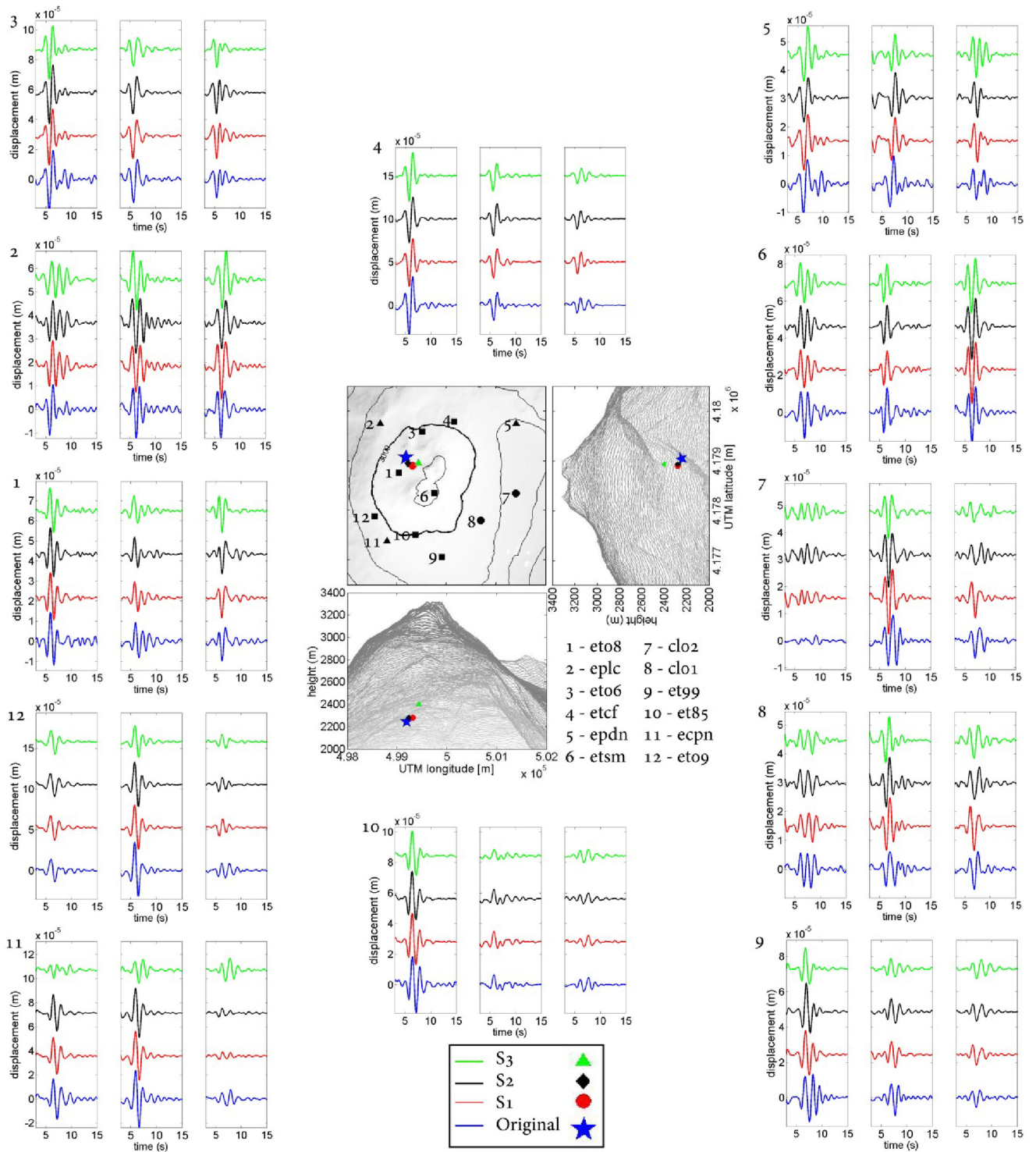
# APPENDIX A

Waveform comparison between the synthetic (velocity model S4) and retrieved signals after the inversion using velocity models S1, S2 and S3 for the shallow source. Three components of displacement for each station ( $x, y, z$ ) are represented. The central map represents the stations used in the inversion. Numbers nearby each stations name are related to the corresponding box where waveforms are compared. The true and the retrieved hypocenter positions are plotted in the center panel.



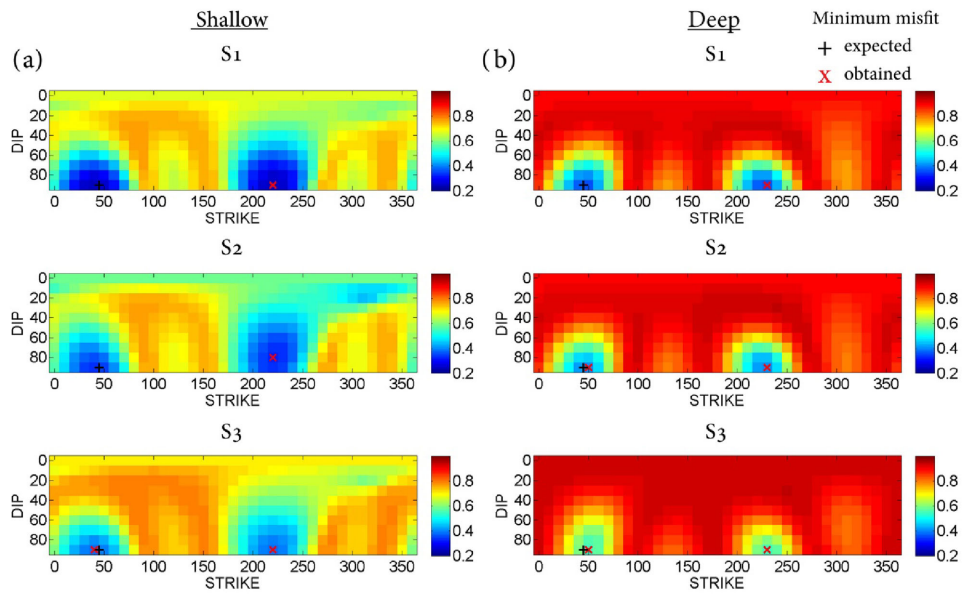
# APPENDIX B

Waveforms comparison between the synthetic (velocity model S4) and retrieved signals after the inversion using Green's functions from velocity models S1, S2 and S3 for the deep source. See also Appendix A.



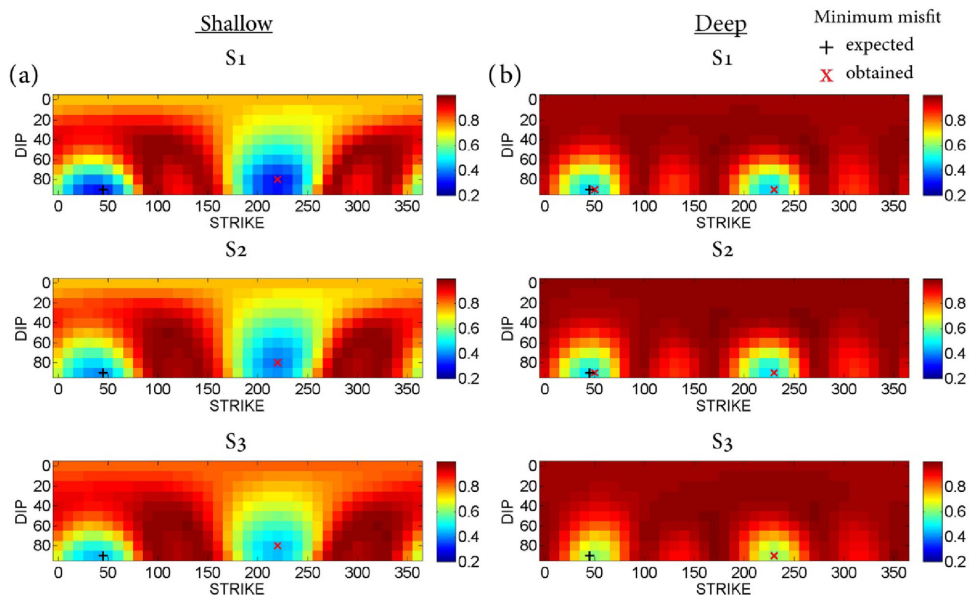
## APPENDIX C

Misfit in parameter search (strike  $\varphi$ , dip  $\theta$ ) under MT + F inversion supposing a tensile crack. The minimum retrieved misfit is represented by a [x] and the given value by [+].



## APPENDIX D

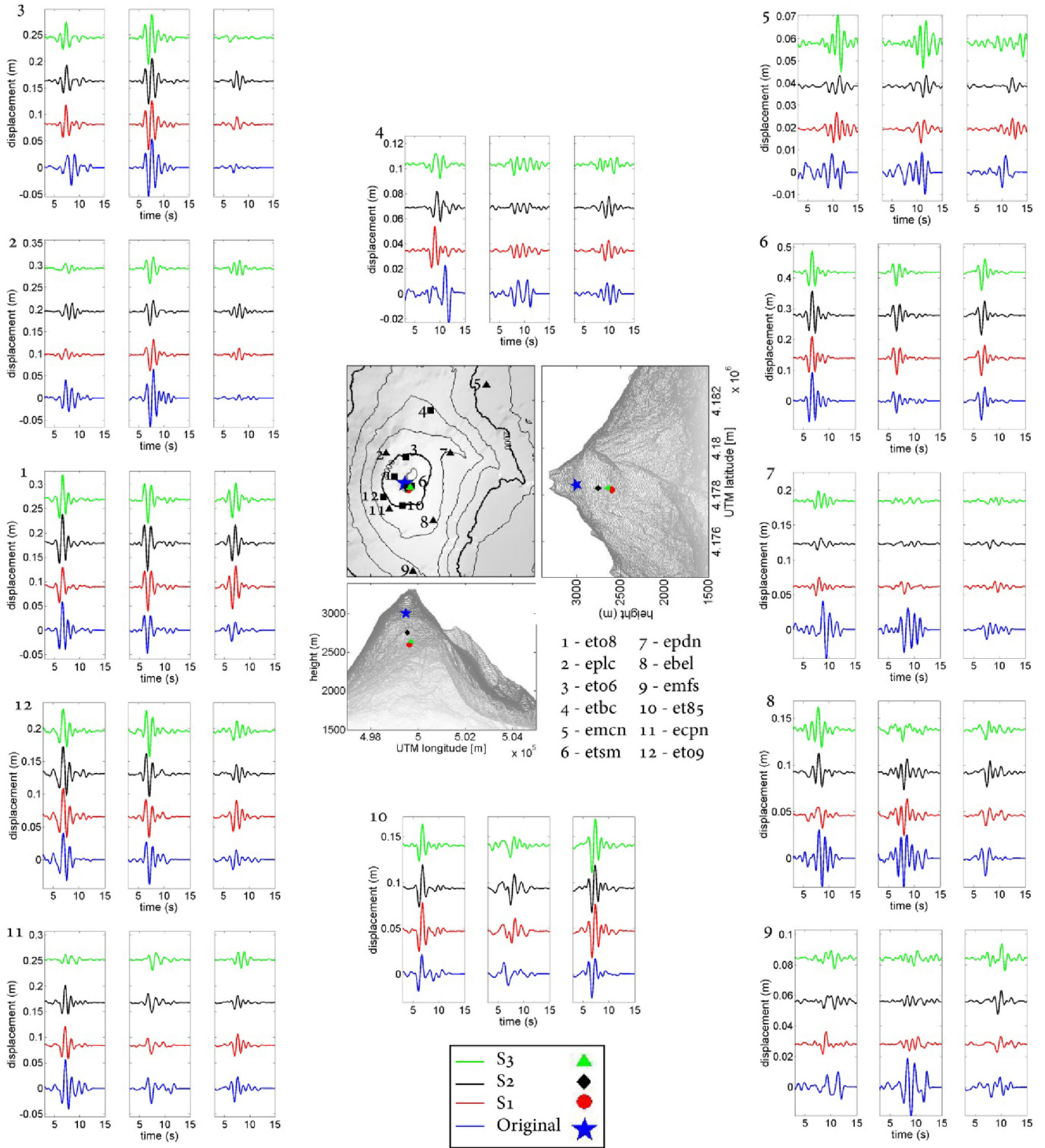
Misfit in parameter search (strike  $\varphi$ , dip  $\theta$ ) under MT inversion supposing a tensile crack. The minimum retrieved misfit is represented by a [x] and the given value by [+].





# APPENDIX E

Waveforms comparison between the filtered (0.1–1.2 Hz) observed signals and the synthetics filtered. The used receiver position and the obtained hypocenter location from each inversion for the LP event recorded on Mt Etna (2008) are shown. A star represents the solution obtained by De Barros *et al.* (2009).



## APPENDIX F

Misfit plot of the crack orientation (strike  $\varphi$  and dip  $\theta$ ) supposing a tensile crack in constrained MT + F and MT inversion for each structure model.

