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- A joint inversion method has been proposed which incorporates body wave arrival times, surface wave dispersion data and receiver functions into one inversion system to simultaneously constrain Vp and Vs models.
- To demonstrate the performance of the proposed joint inversion method, a series of joint inversions synthetic tests using different combinations of seismic datasets were implemented.
- We conducted synthetic tests based on synthetic velocity models in southwest China to investigate the performance of velocity models on event location accuracy.
- To investigate the improvement of event location accuracy, synthetic tests have been conducted in southwest China. Based on the results, we can conclude that the event location accuracy can be improved by 50% from 1-D model to 3-D model.
- In the future, the work will be extended to sparse networks and global model acquired by joint inversion for monitoring the CTBT.

