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Title: Geophone and DY Accelerometer Array Performance for SPE-5 and Comparison with Predictions

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Geophone and DY Accelerometer Array Performance for SPE-5 and Comparison with Predictions

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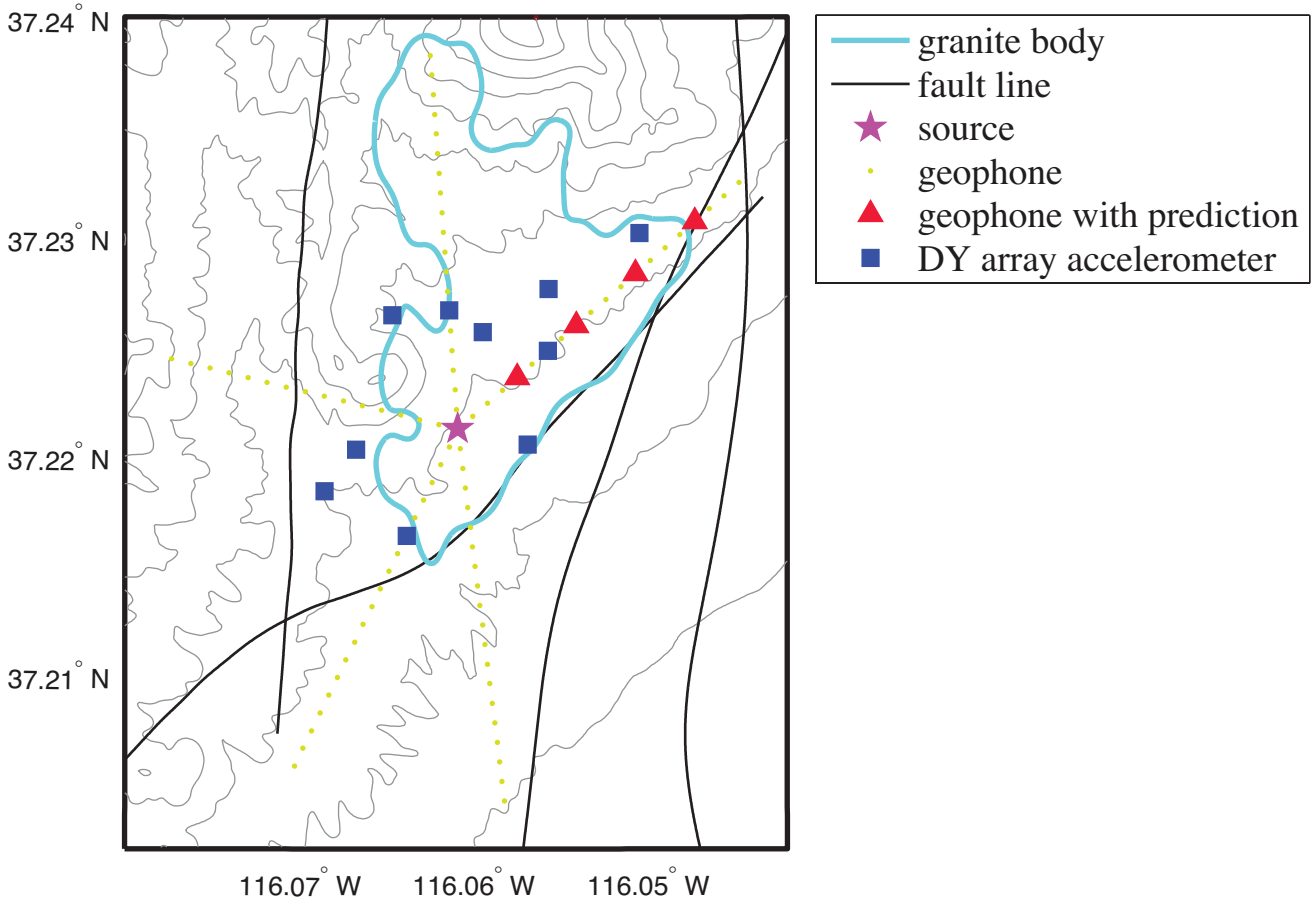
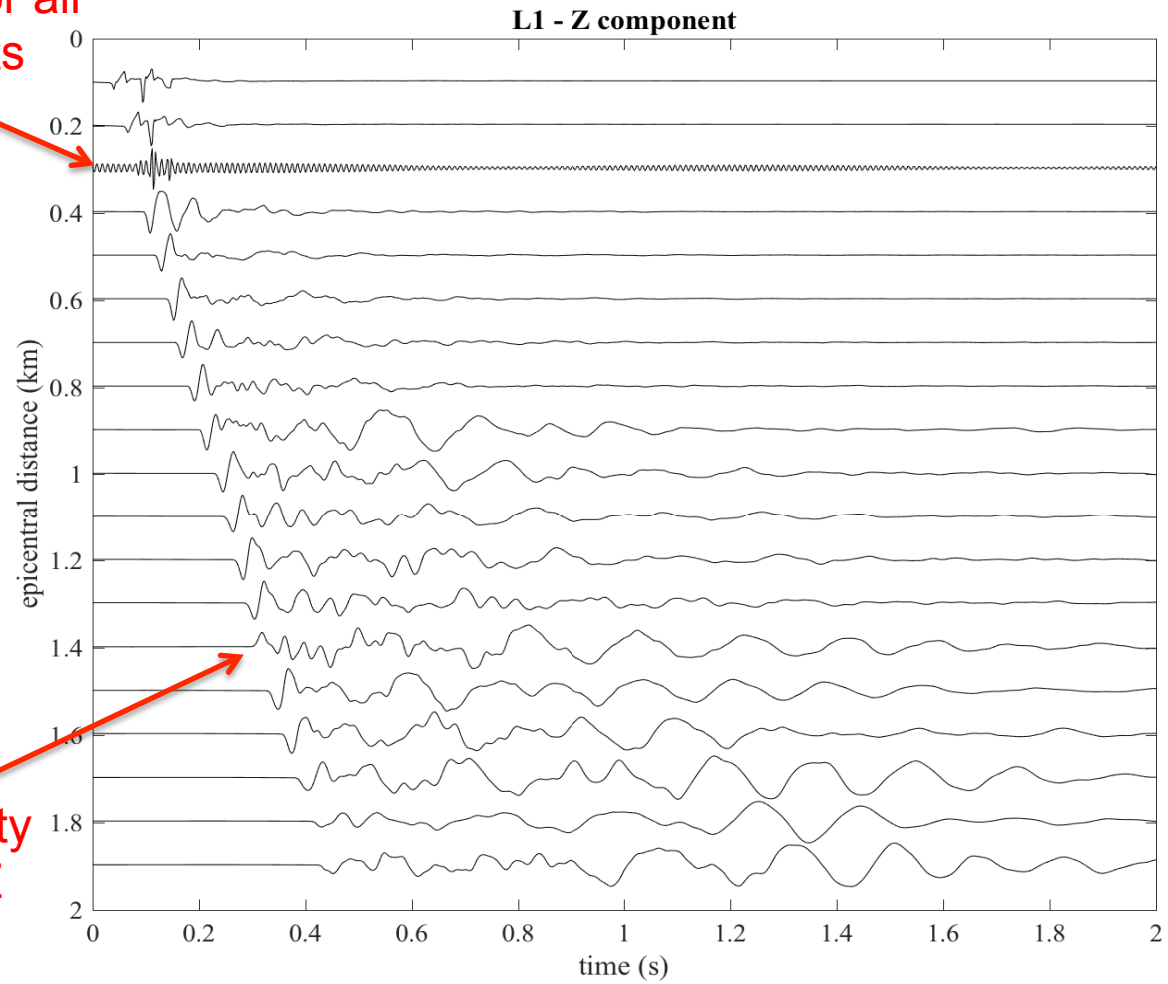
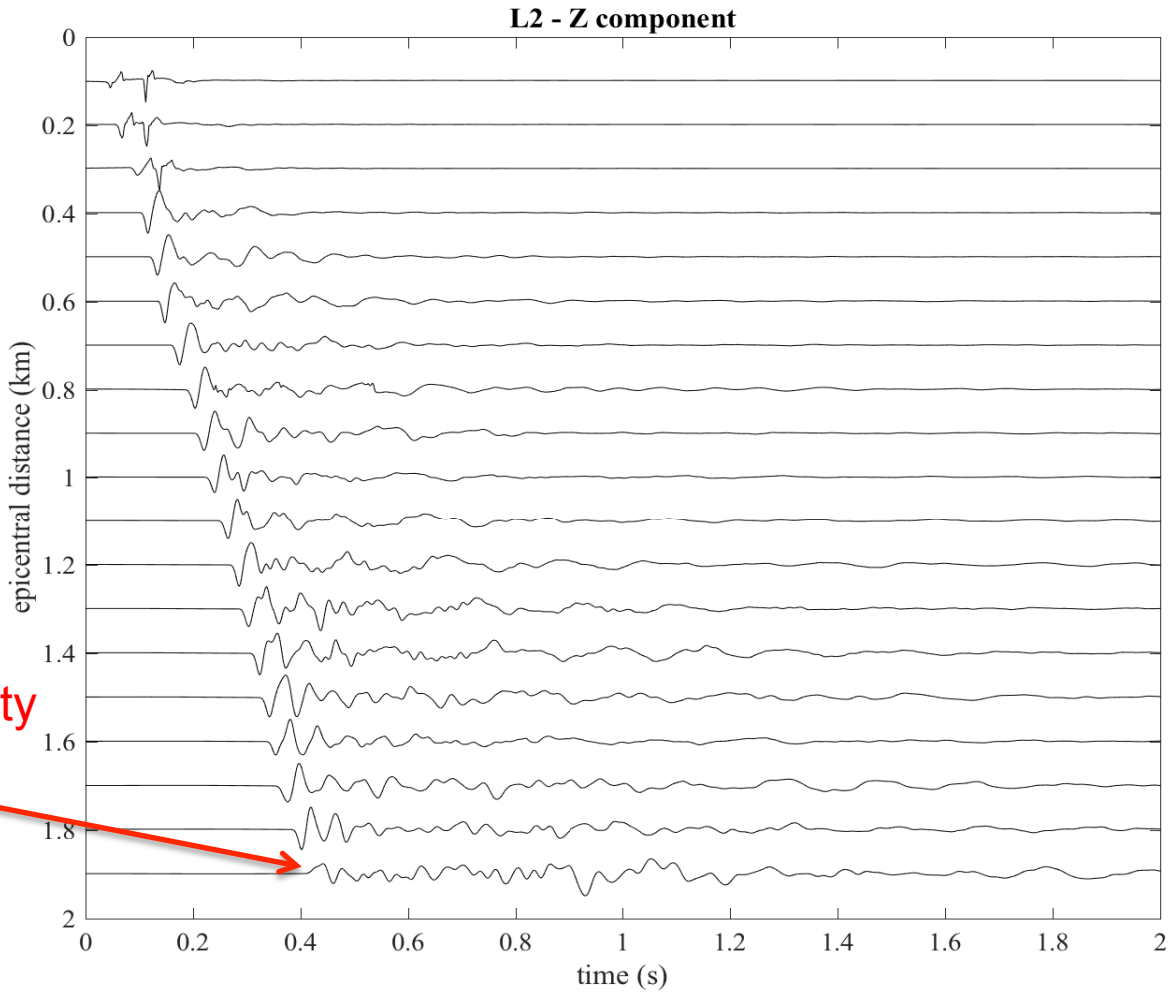

37.24° N
37.23° N
37.22° N
37.21° N
116.07° W
116.06° W
116.05° W
granite body
fault line
source
geophone
geophone with prediction
DY array accelerometer

Geophone Line Data Check

bad data for all components

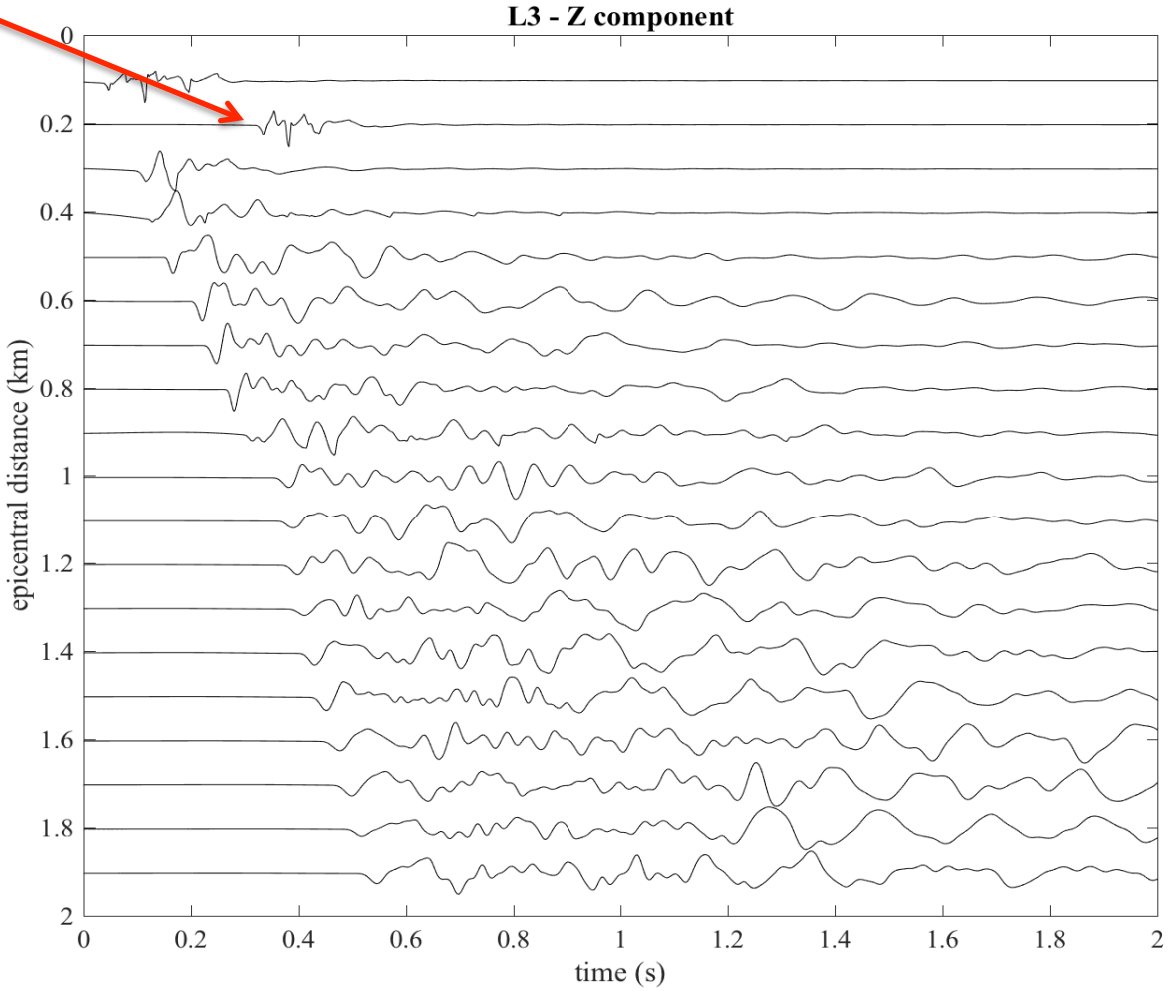


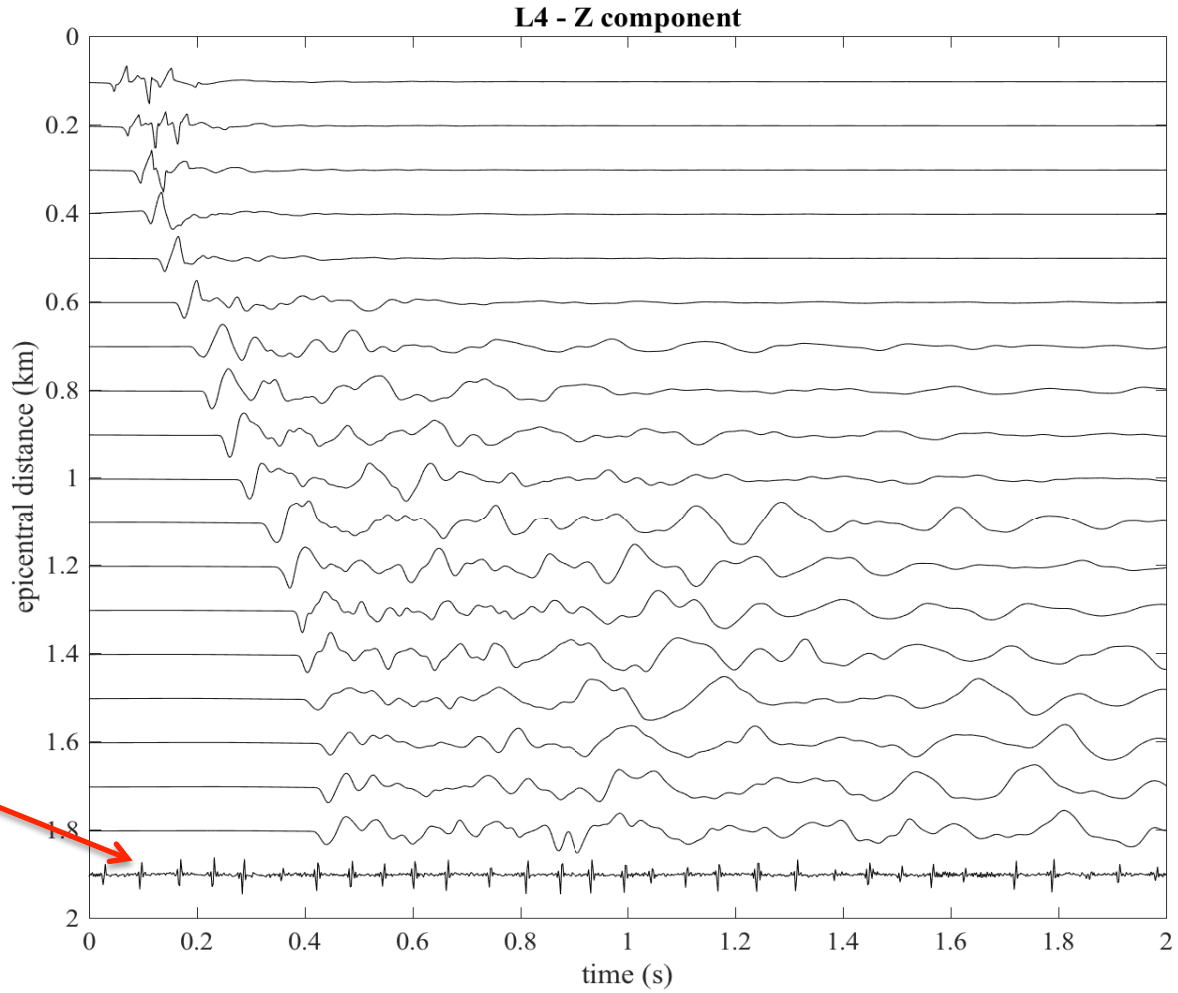
wrong polarity for R and Z



wrong polarity for R and Z

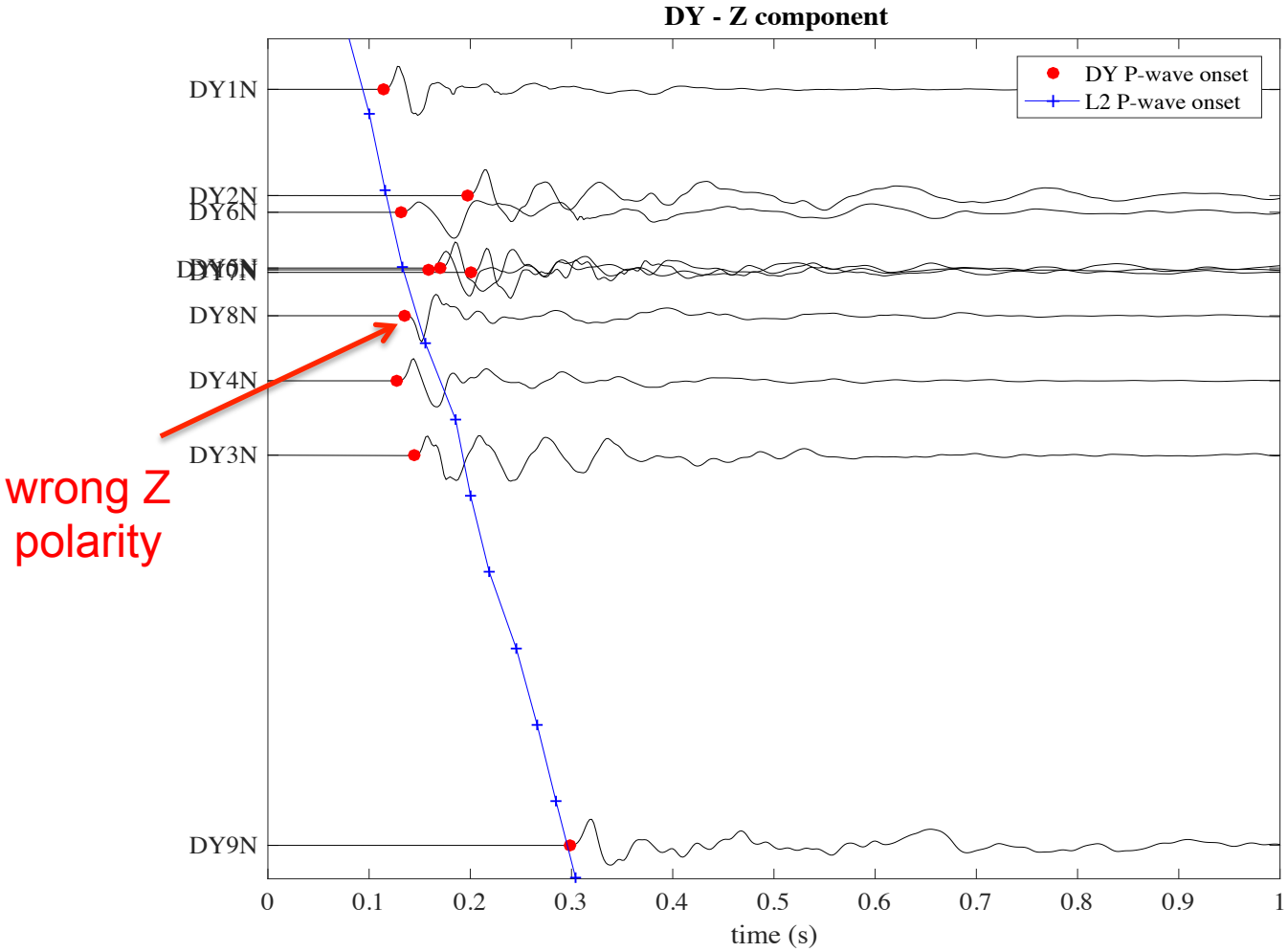
timing is off for
all components

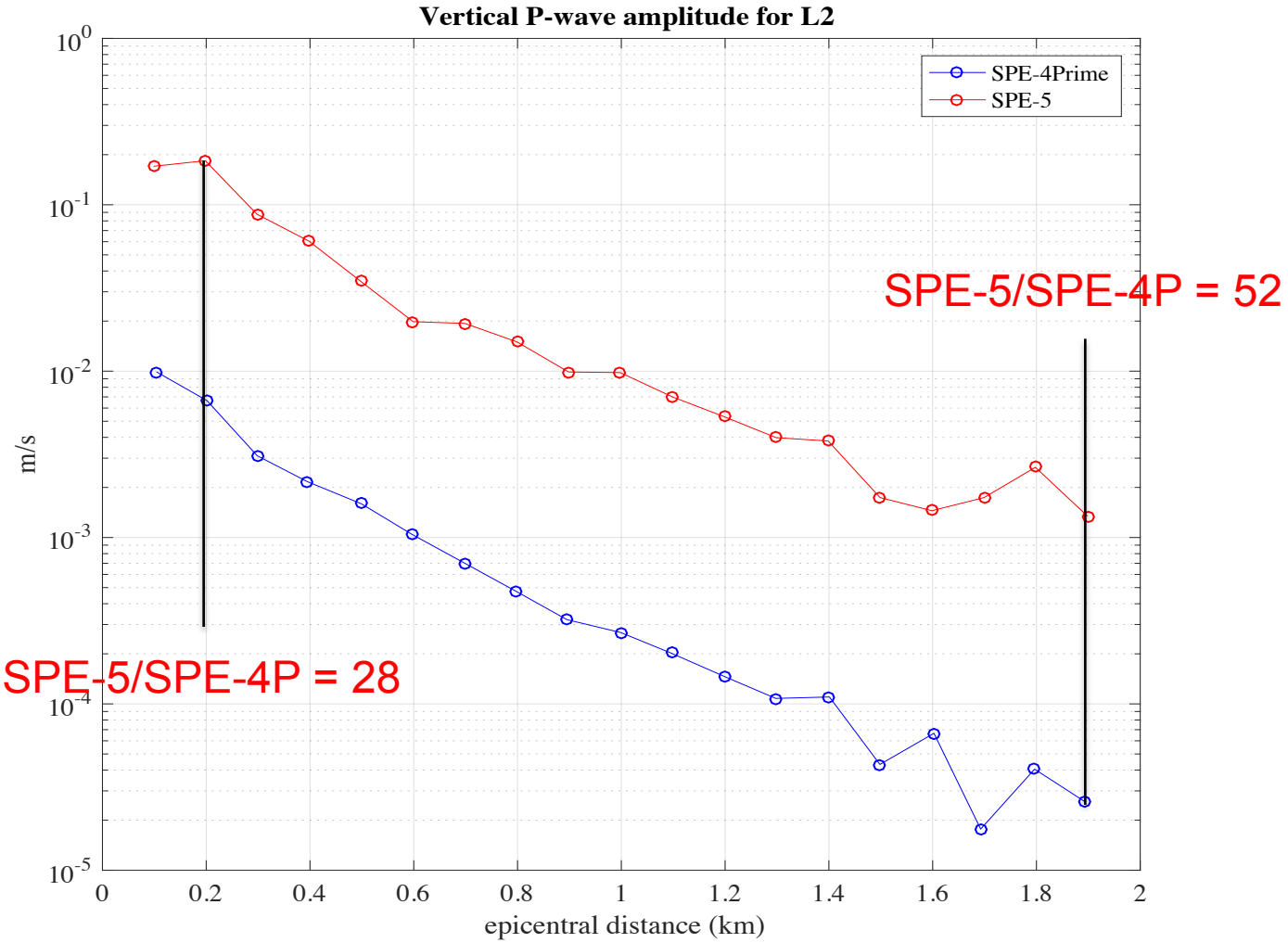



L4 - Z component
epicentral distance (km)
time (s)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

bad Z data

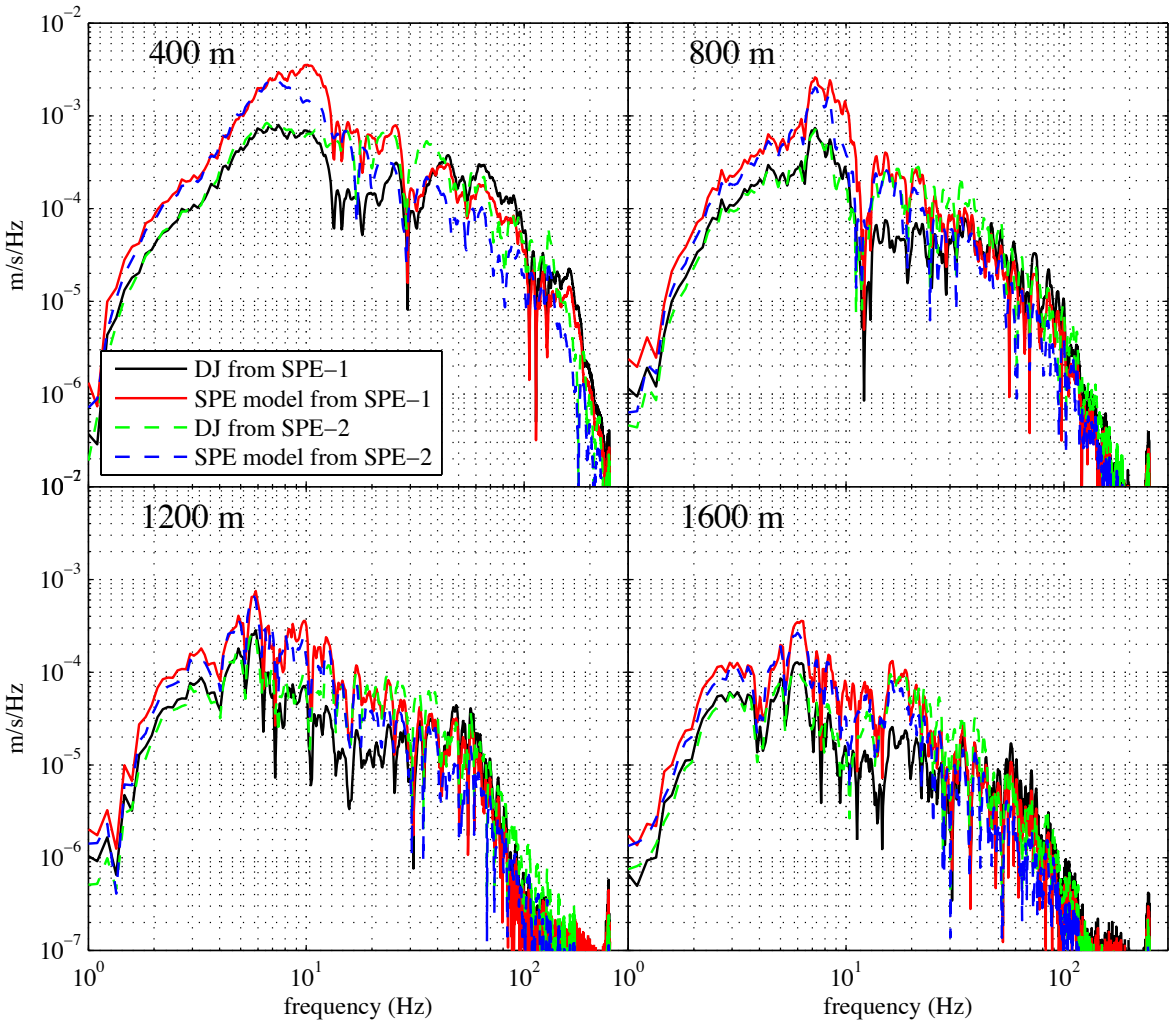
DY Accelerometer Data Check


DY - Z component
DY P-wave onset
L2 P-wave onset
DY1N
DY2N
DY6N
DY7N
DY8N
DY4N
DY3N
DY9N
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
time (s)
wrong Z polarity

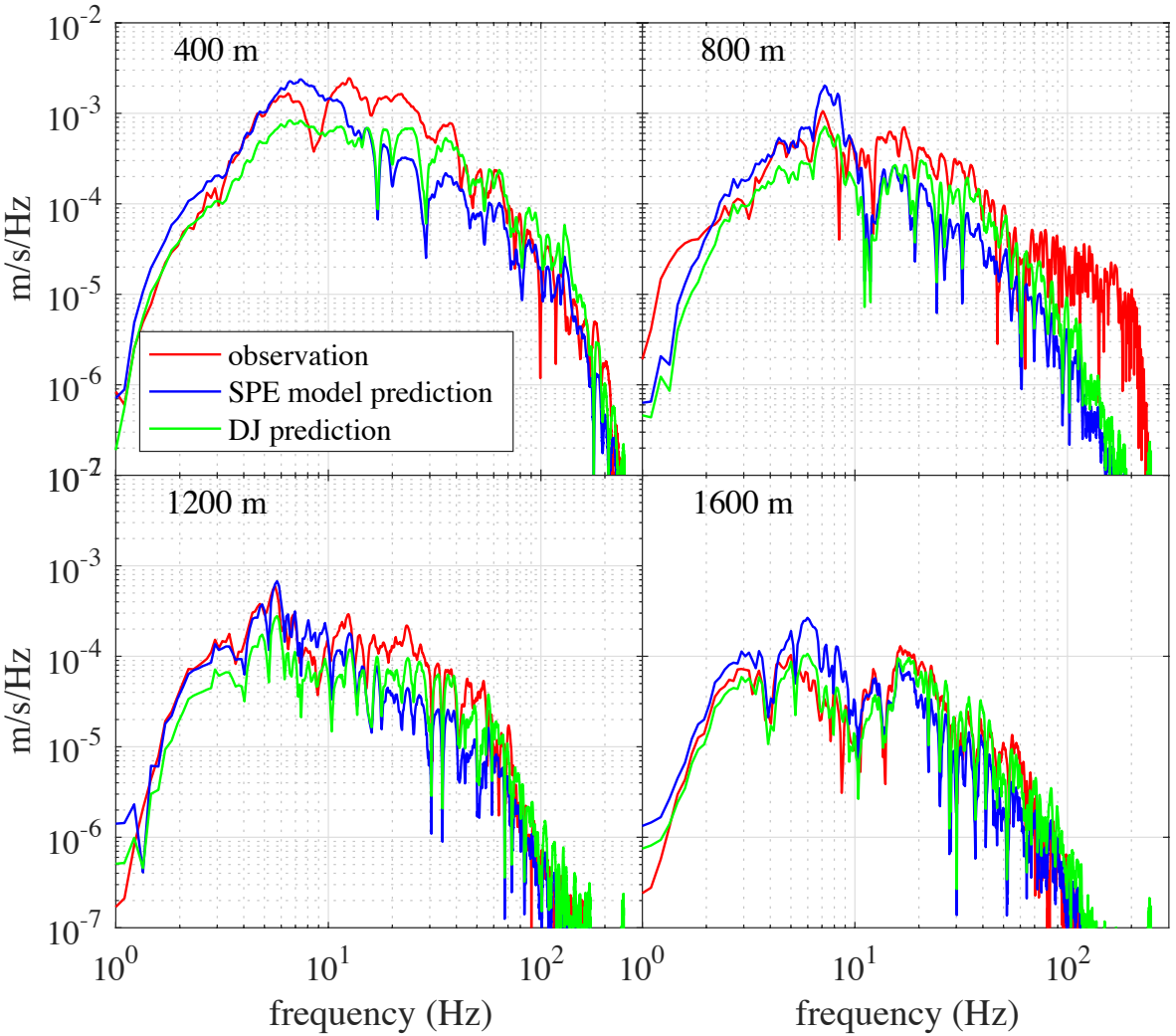

Vertical P-wave amplitude for L2
SPE-4Prime
SPE-5
m/s
epicentral distance (km)
SPE-5/SPE-4P = 52
SPE-5/SPE-4P = 28

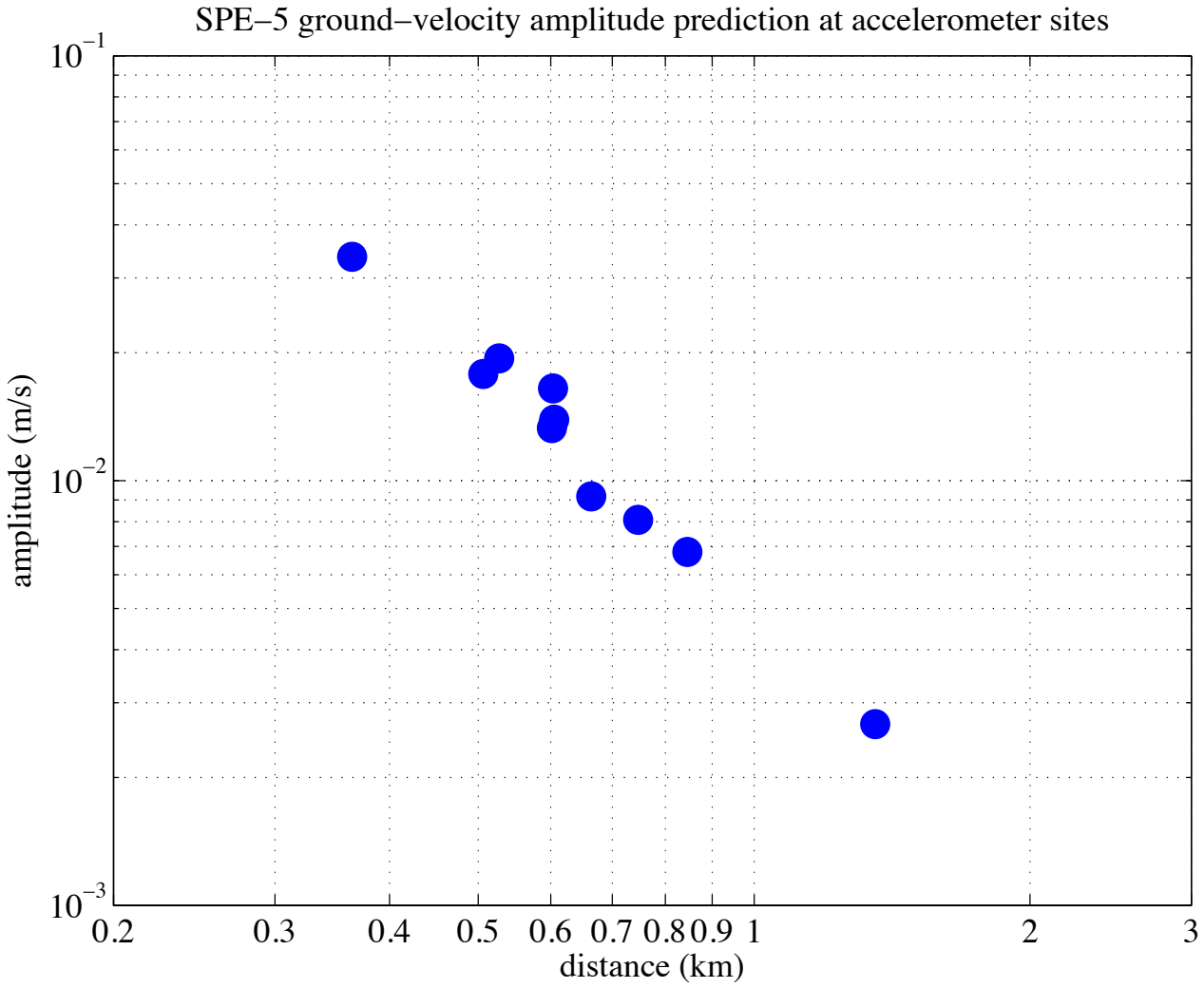
Comparison with Predictions

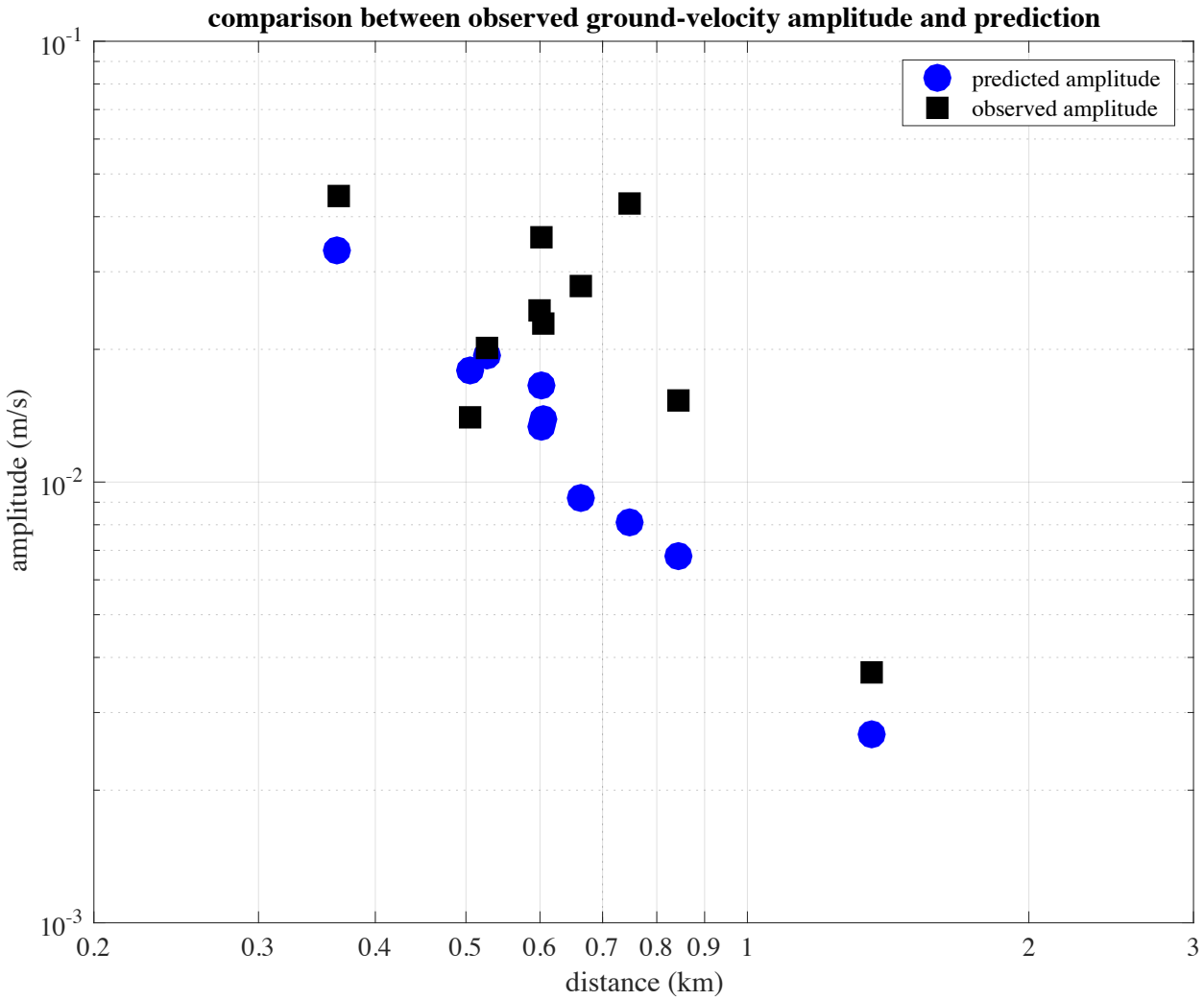
SPE-5 spectra prediction using SPE-1 and SPE-2 data

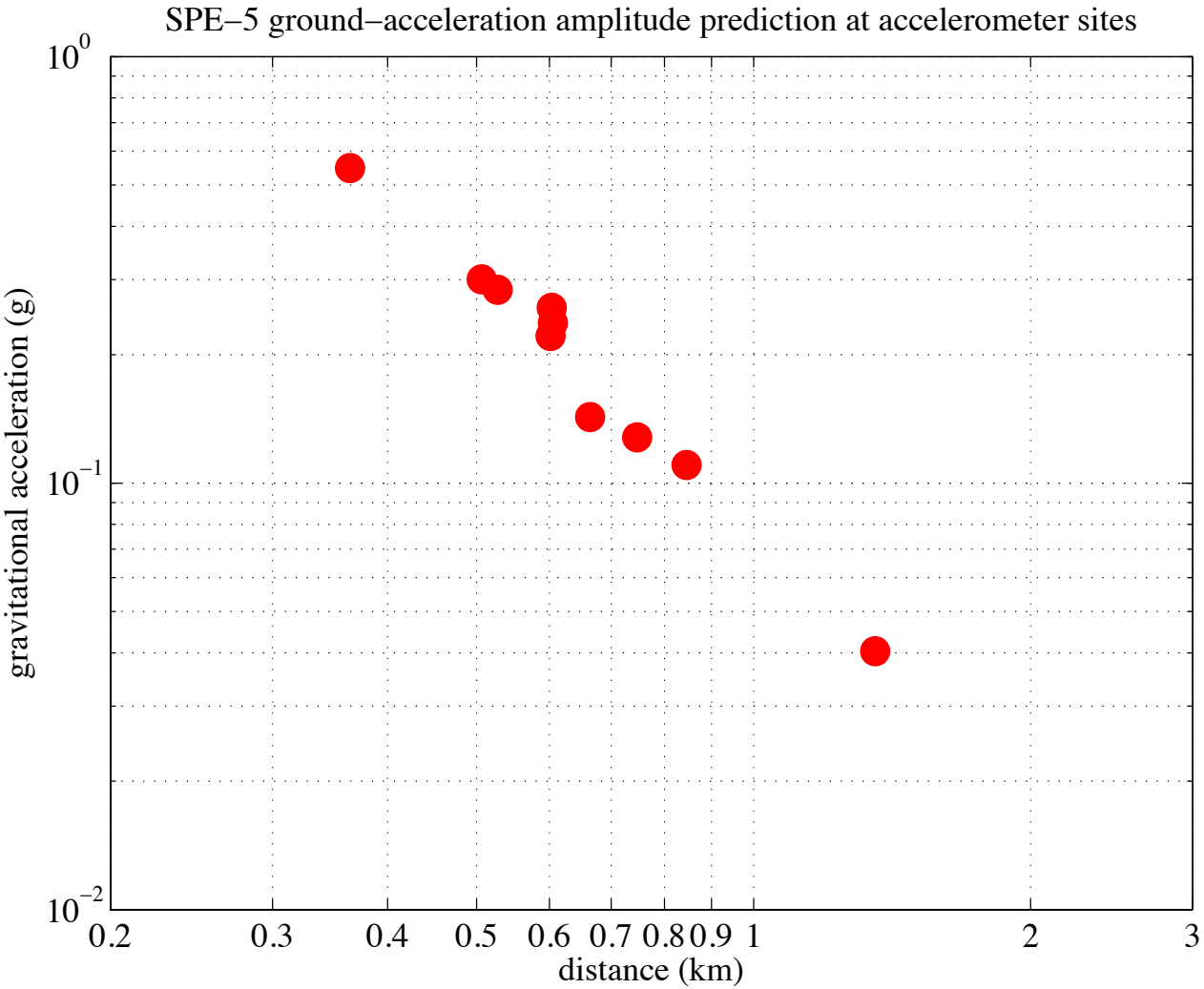


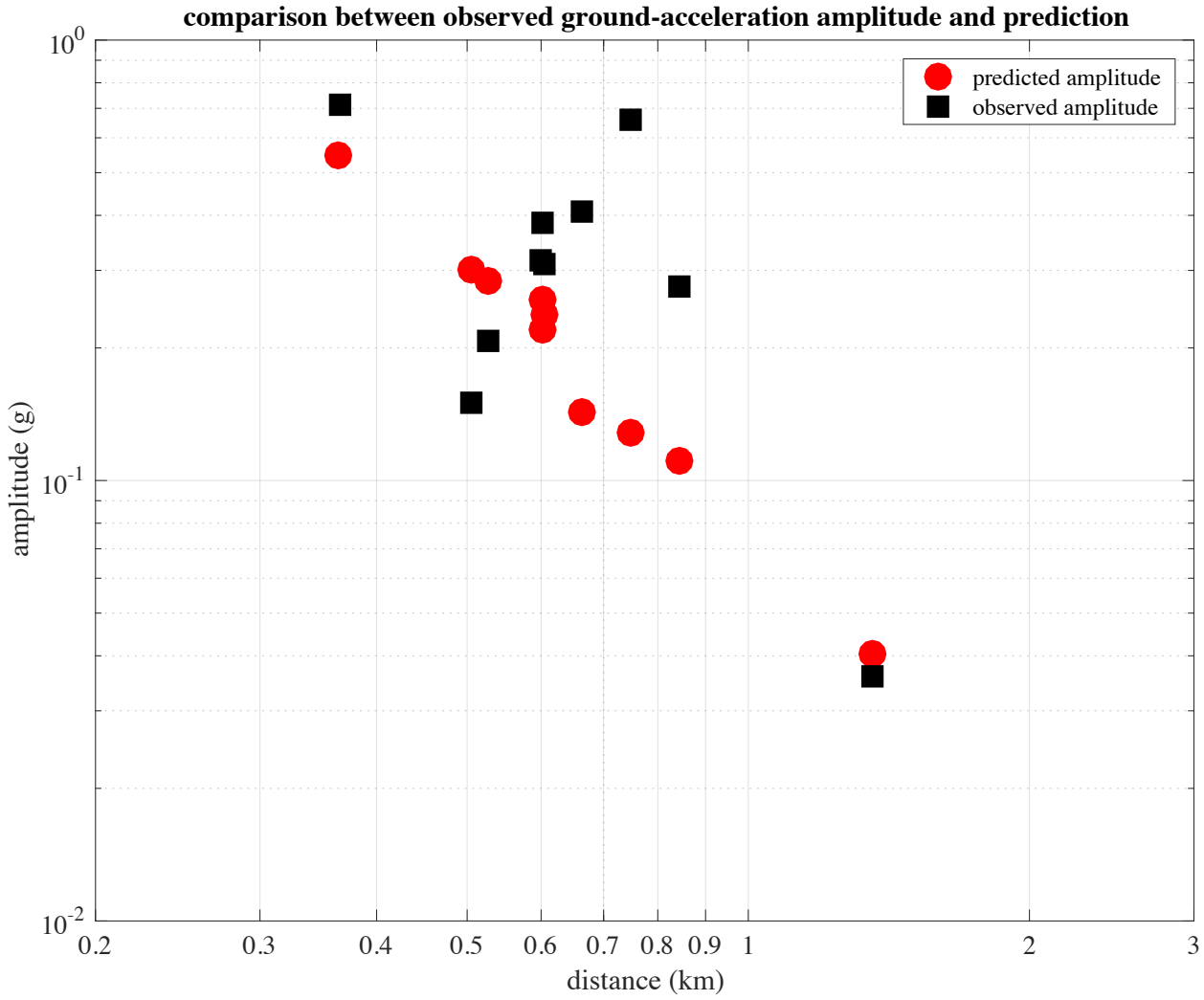
Comparison between observed SPE-5 spectra and model prediction




SPE–5 ground–velocity amplitude prediction at accelerometer sites
amplitude (m/s)
10^{-1}
10^{-2}
10^{-3}
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
3
distance (km)


comparison between observed ground-velocity amplitude and prediction
predicted amplitude
observed amplitude
amplitude (m/s)
distance (km)
10^{-1}
10^{-2}
10^{-3}
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
3


SPE–5 ground–acceleration amplitude prediction at accelerometer sites
gravitational acceleration (g)
10^{0}
10^{-1}
10^{-2}
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
3
distance (km)


comparison between observed ground-acceleration amplitude and prediction
predicted amplitude
observed amplitude
amplitude (g)
distance (km)
10^0
10^{-1}
10^{-2}
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
3