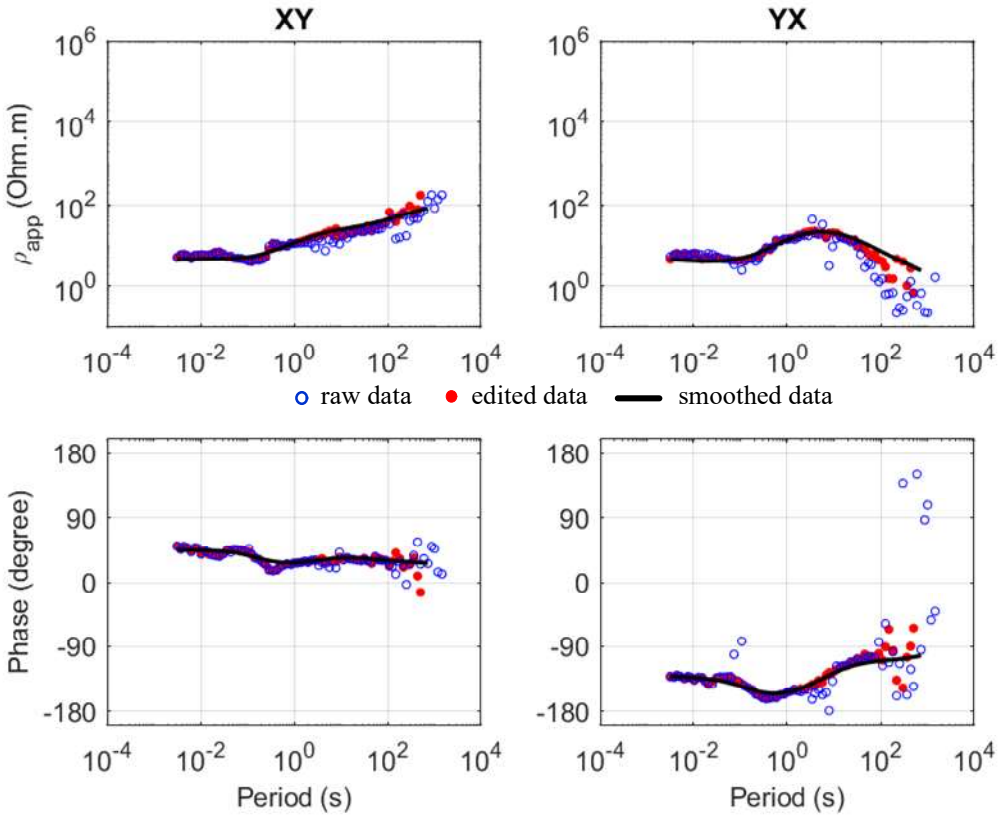
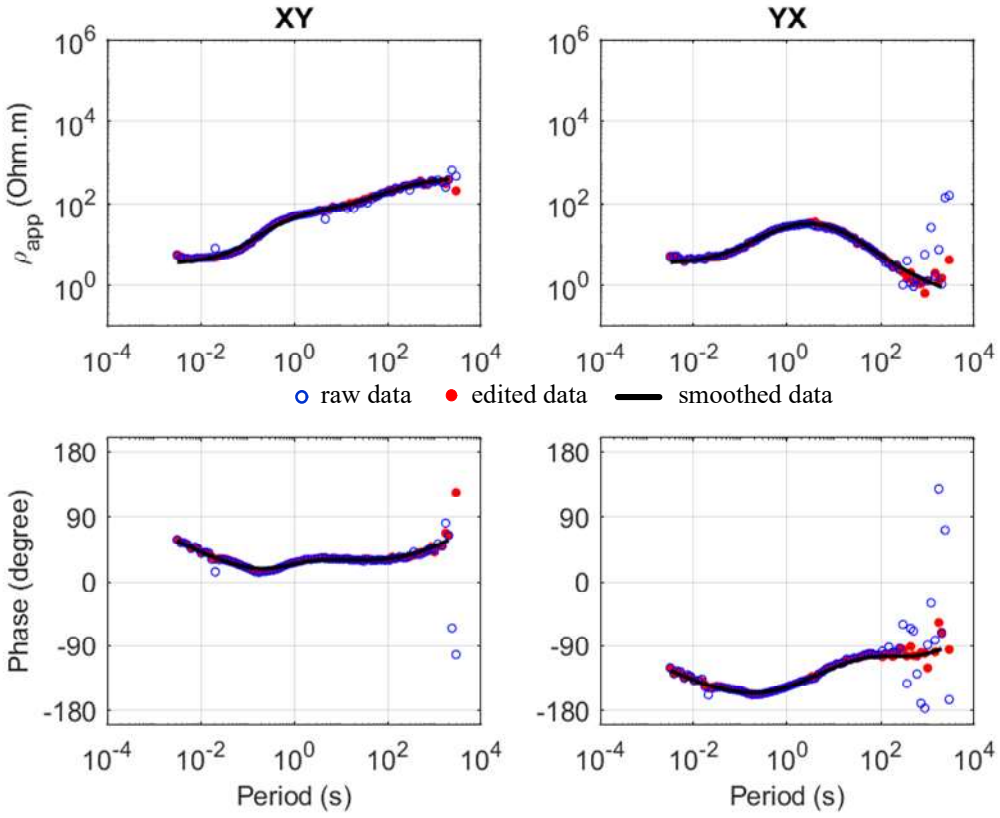
Supplementary Material 1. The curves of apparent resistivity and phase of impedance for all the measuring stations

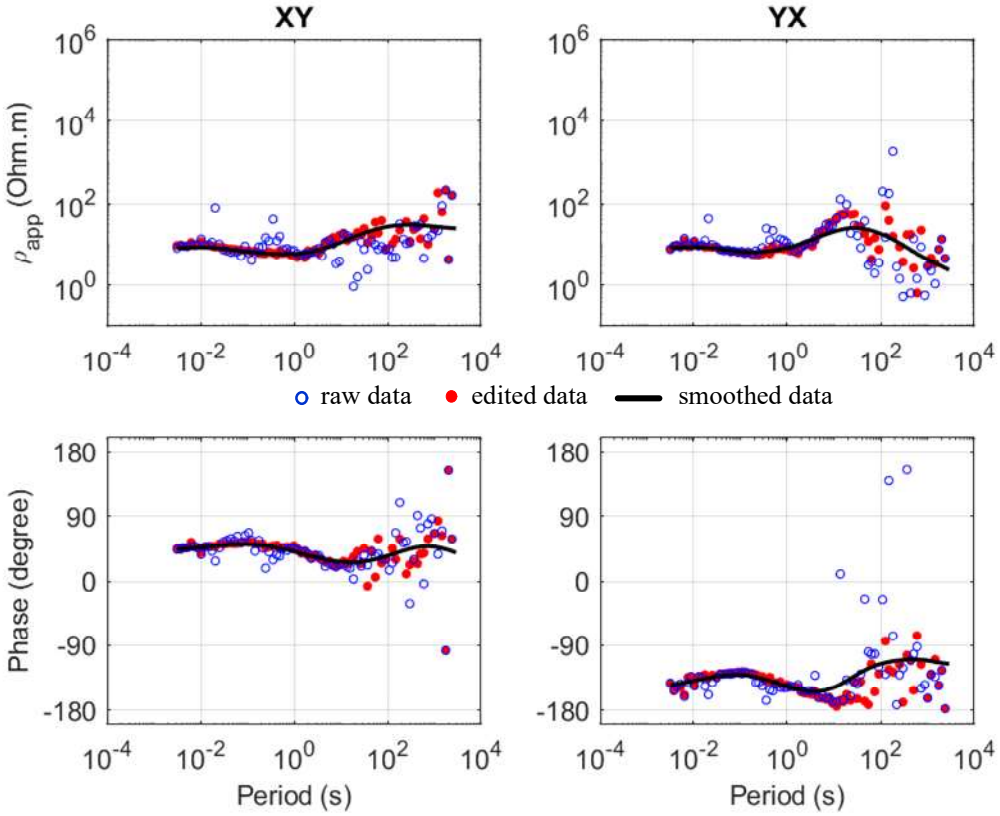
MT-01


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

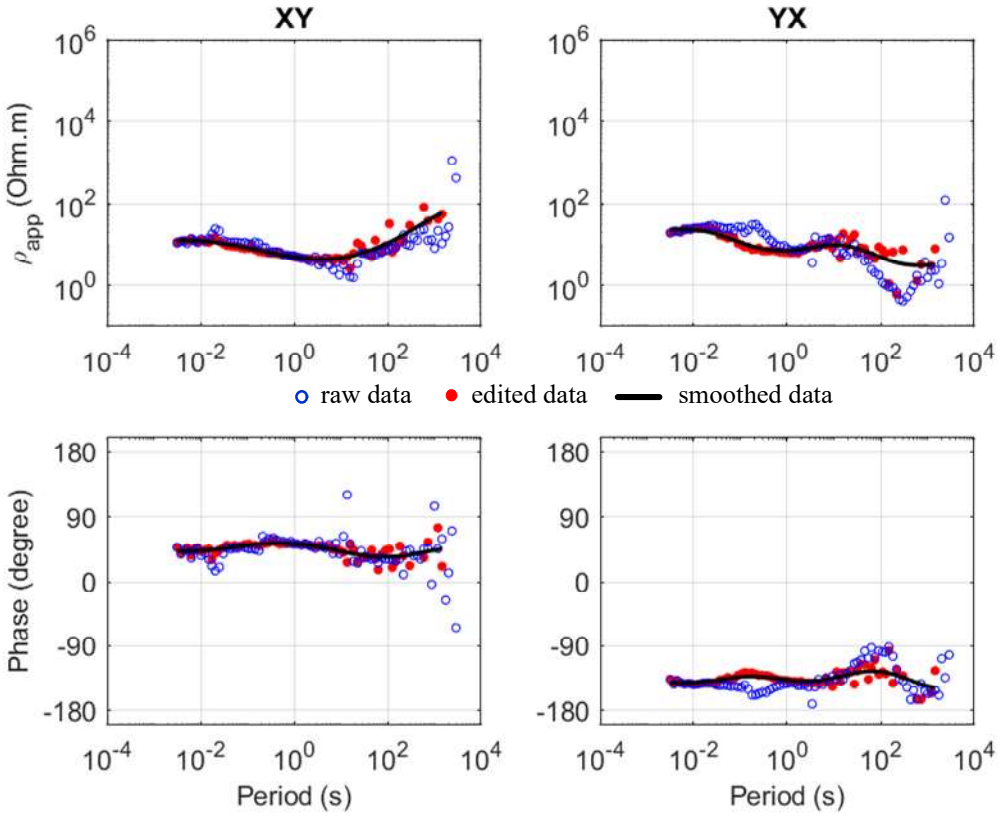
MT-02


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

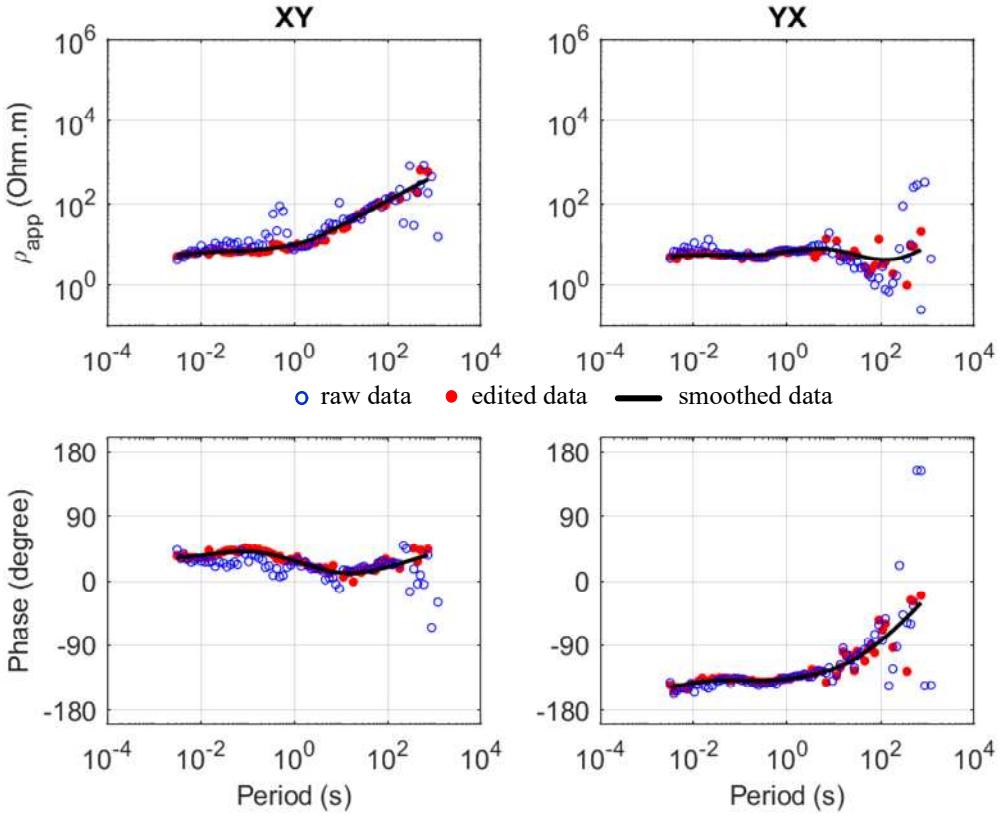
MT-03


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

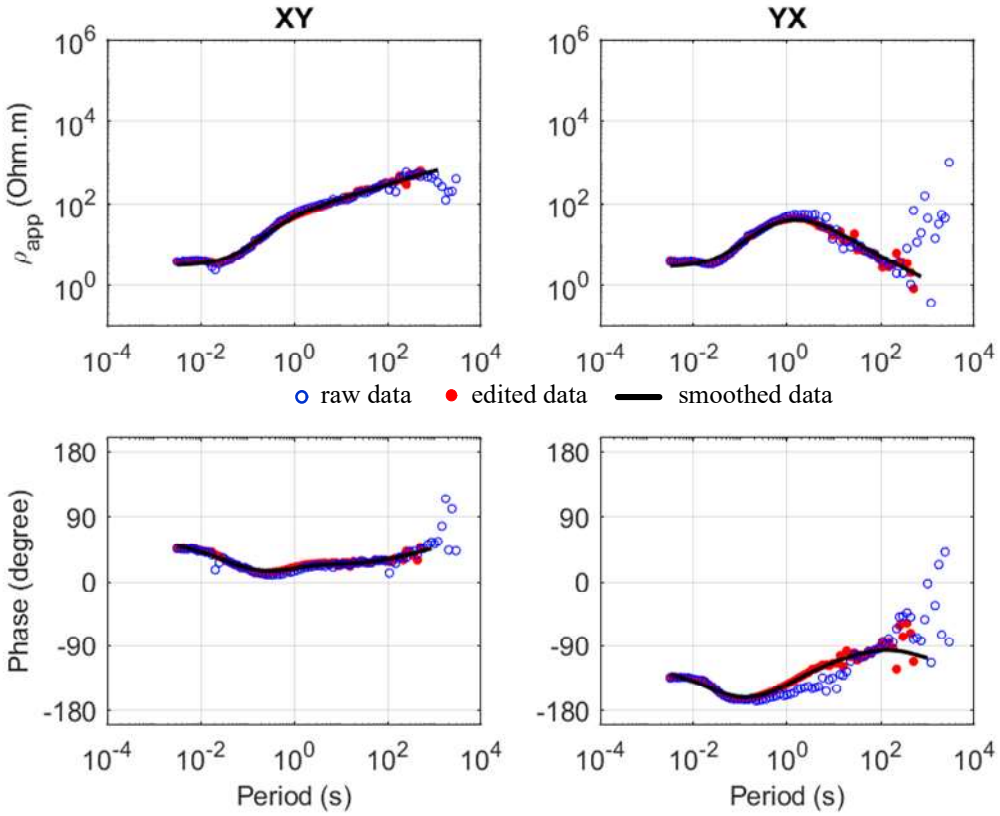
MT-05


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

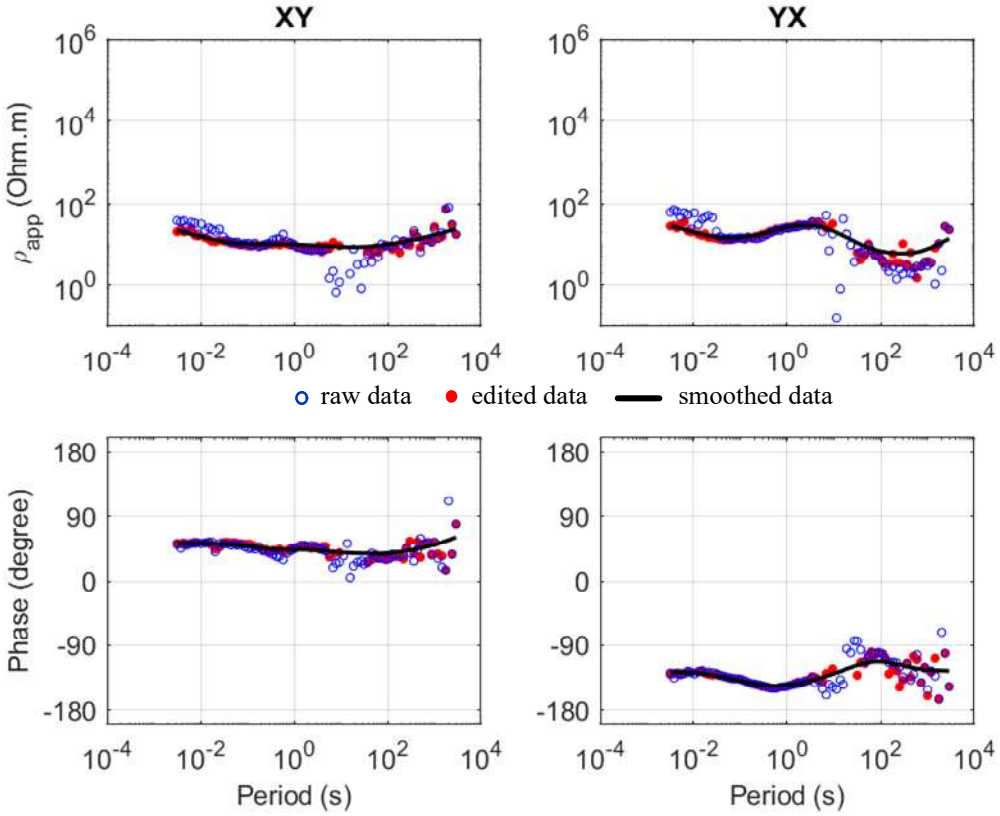
MT-07


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

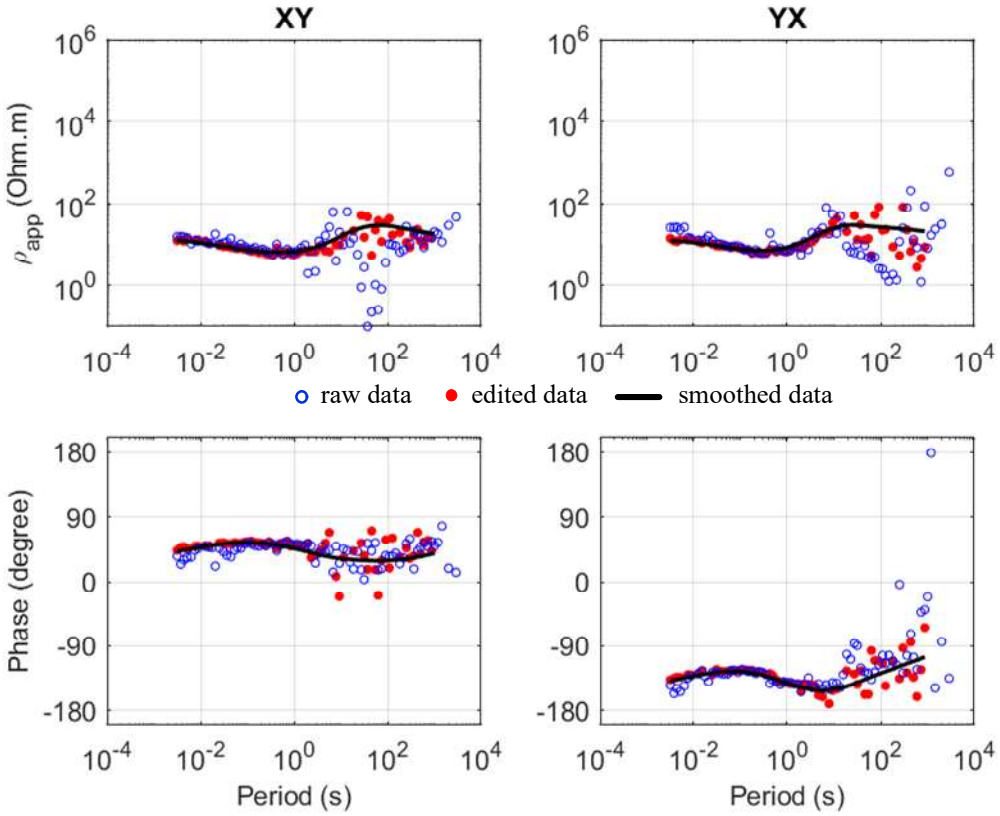
MT-08


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

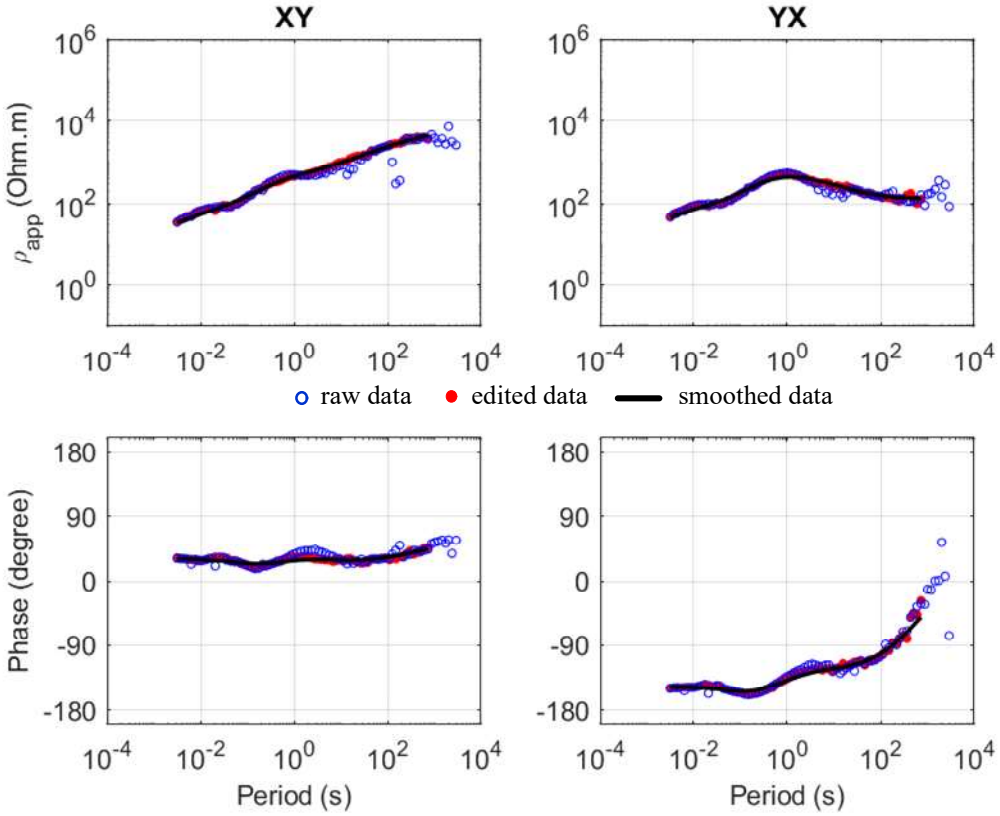
MT-09


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

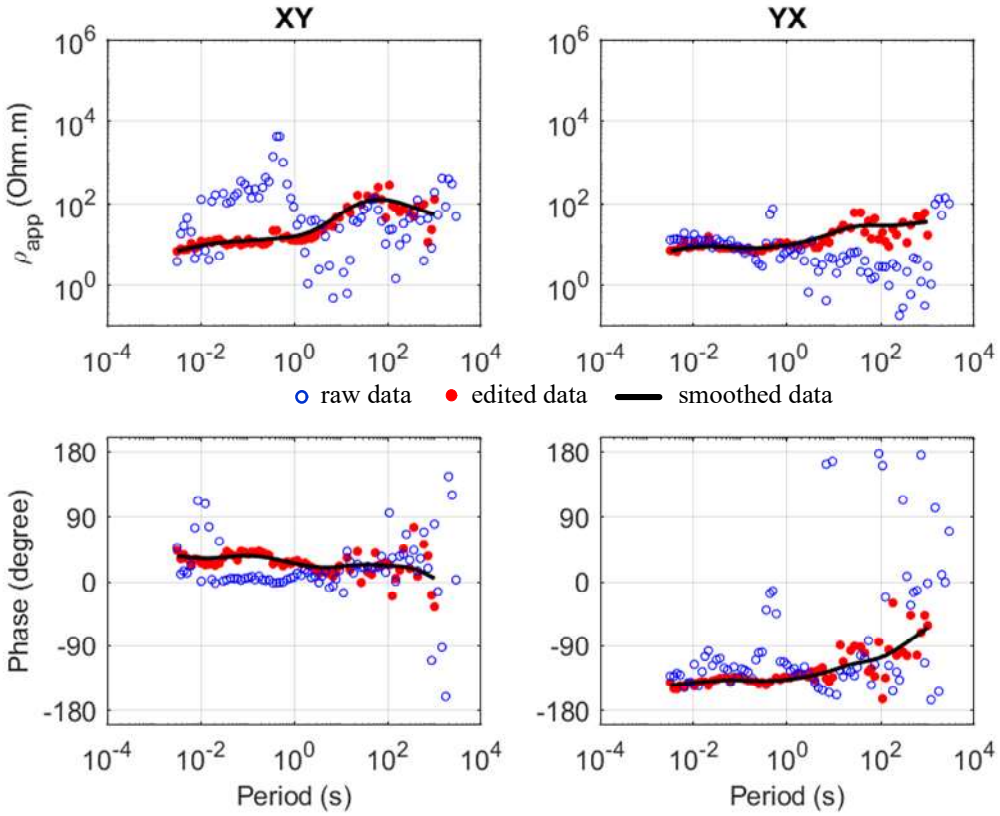
MT-10


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

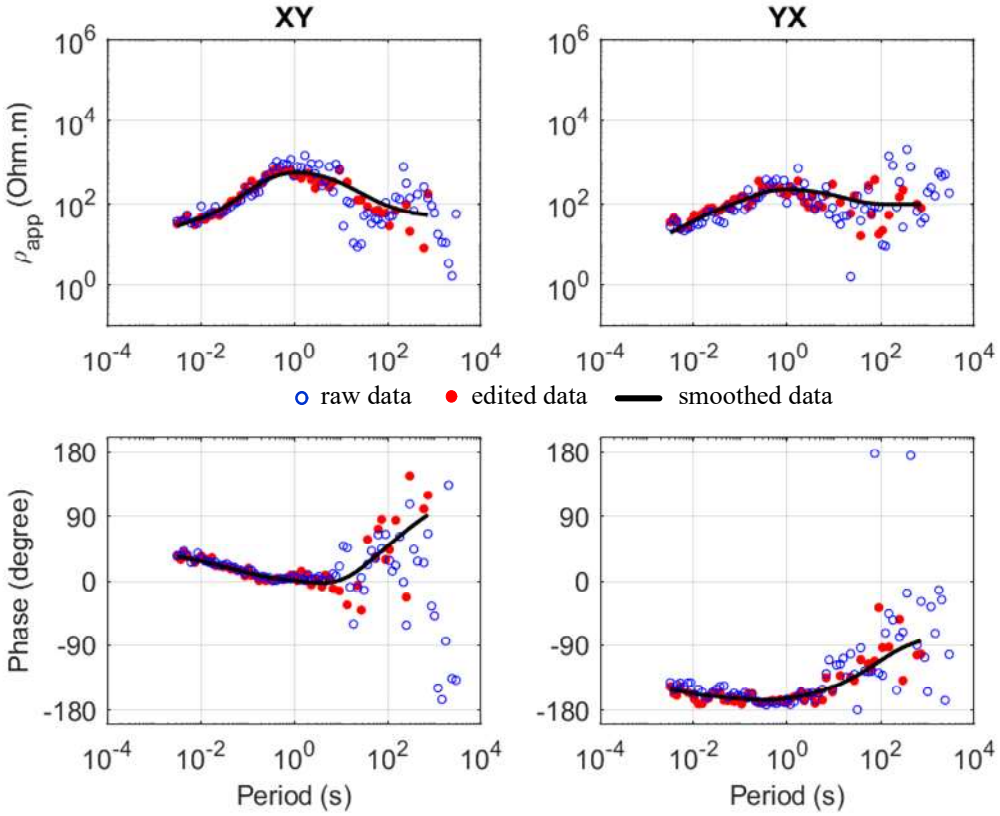
MT-11


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

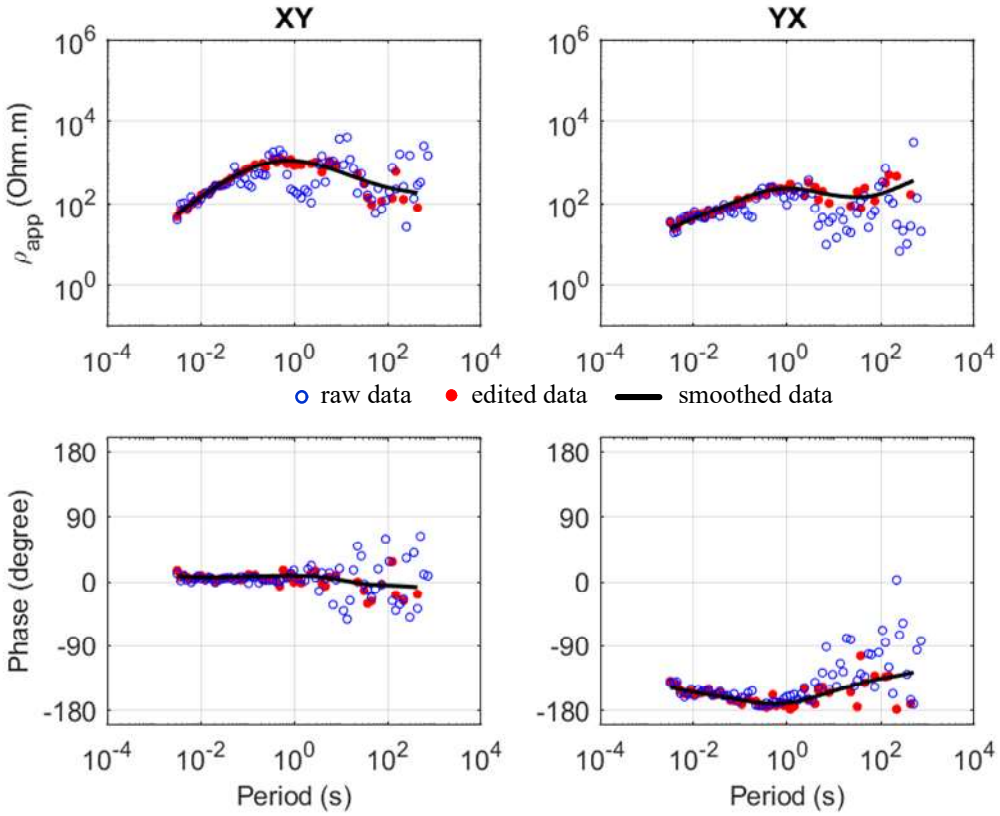
MT-12


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

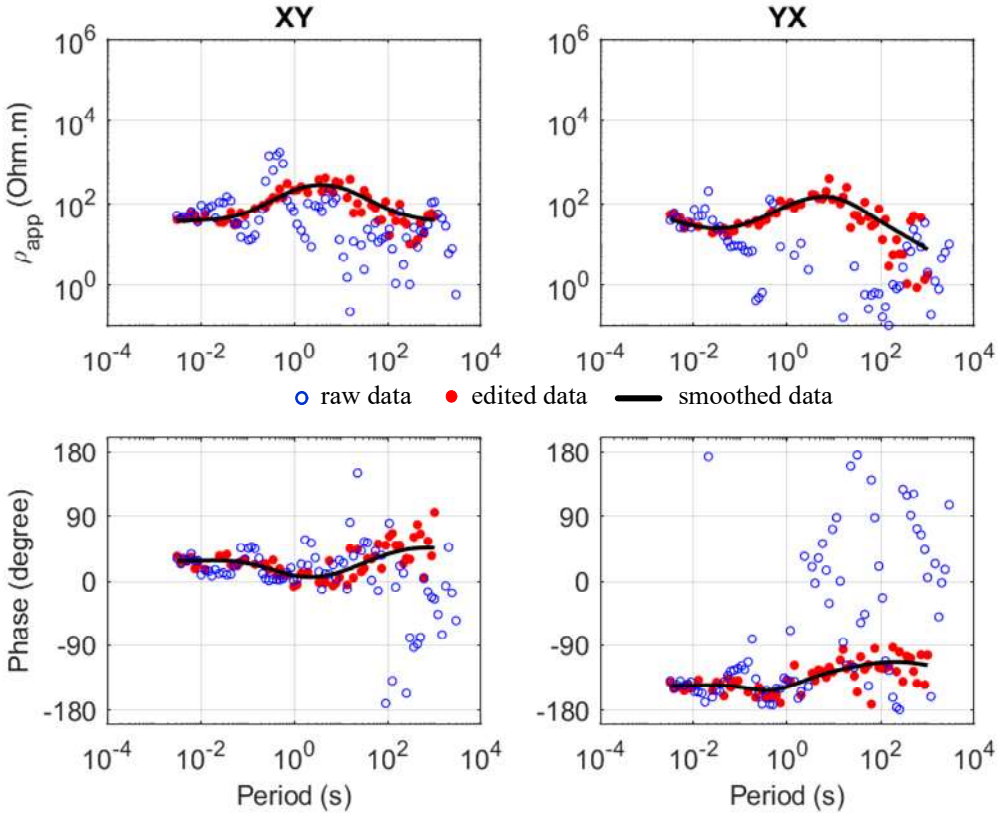
MT-13


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

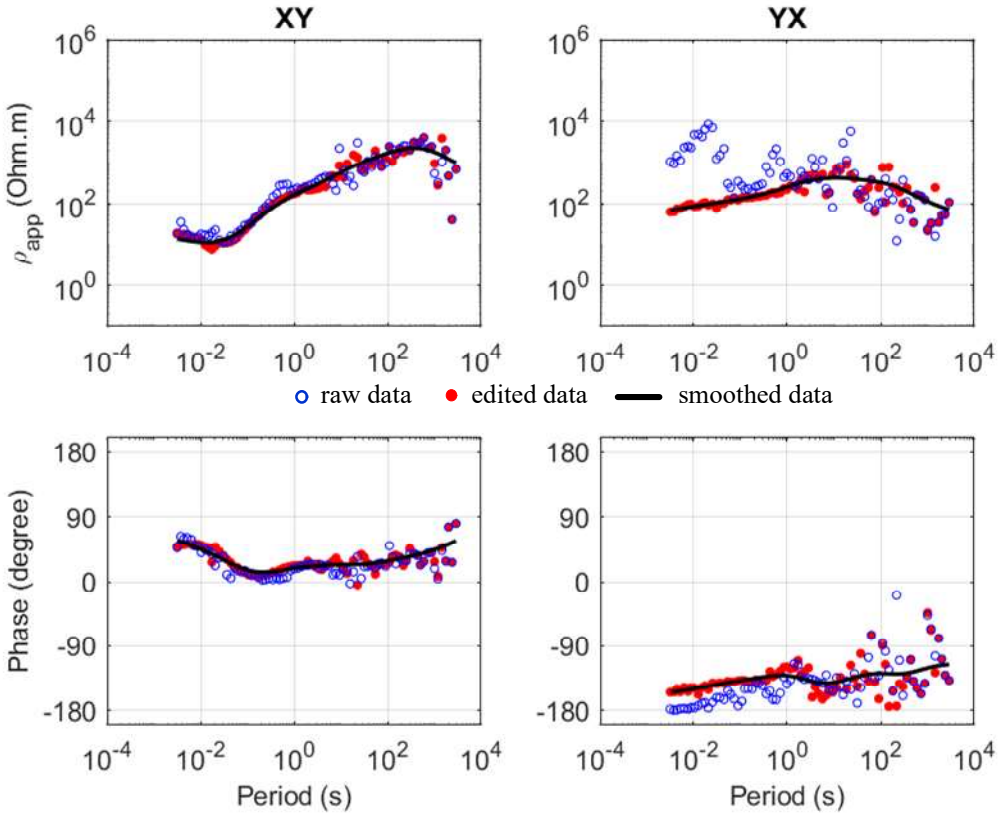
MT-15


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

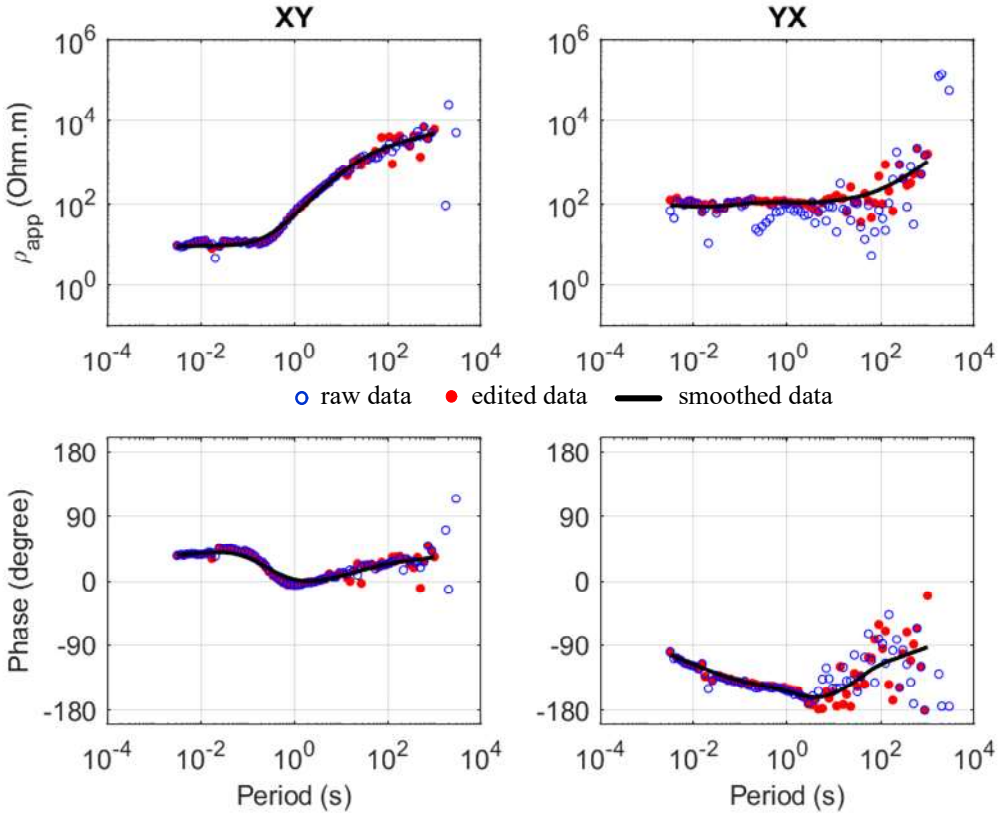
MT-17


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

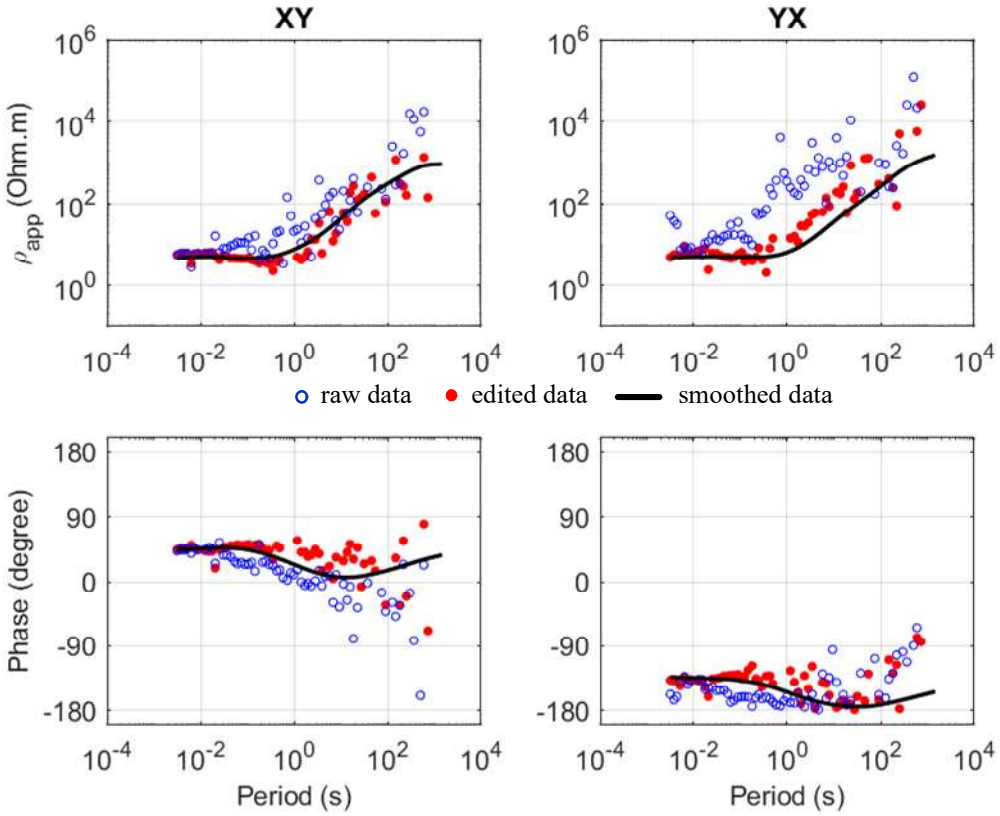
MT-18


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

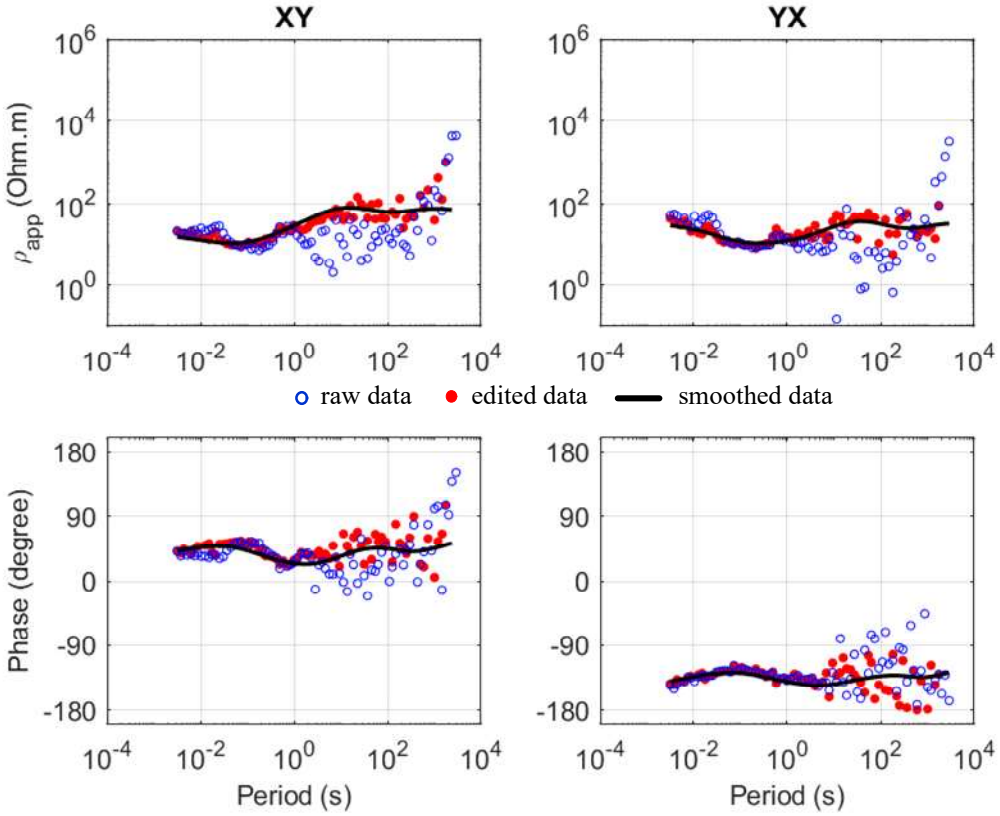
MT-19


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

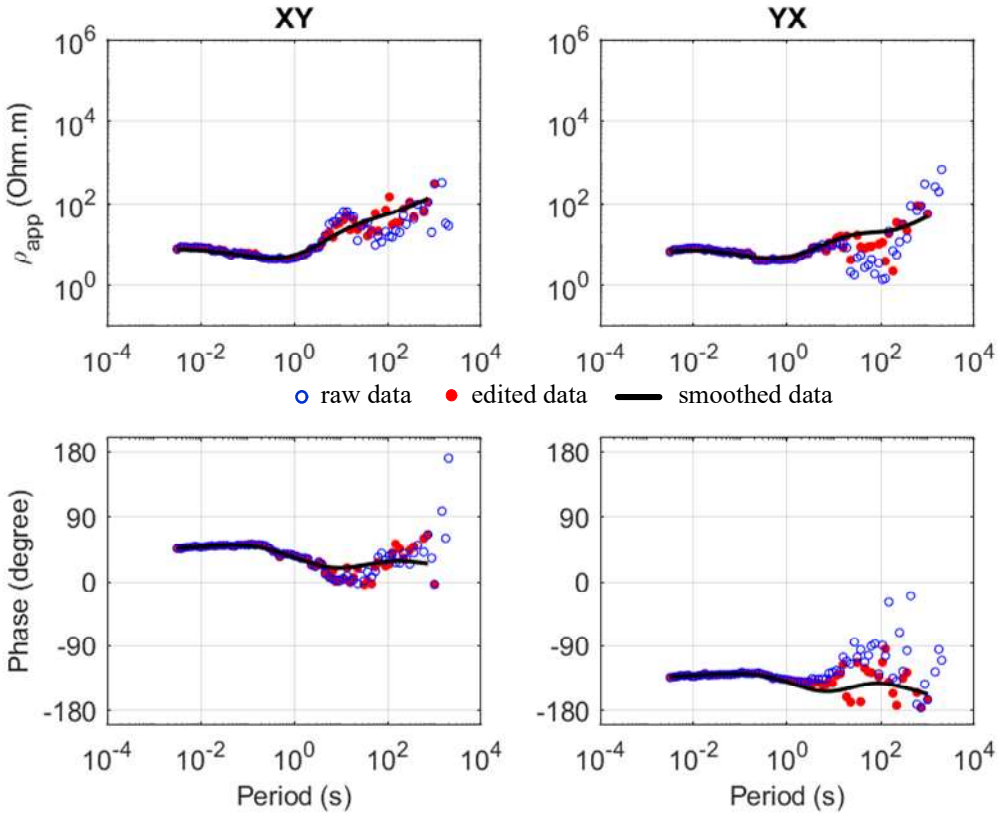
MT-21


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

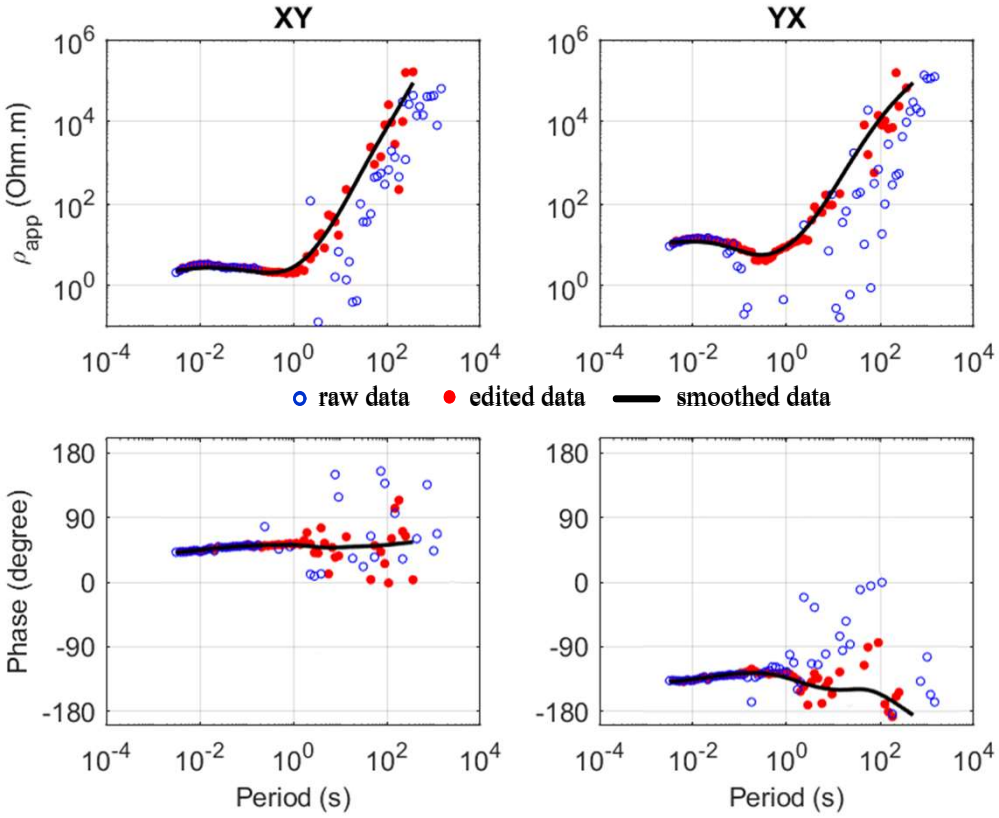
MT-22


XY
YX
ρ_{app} (Ohm.m)
Phase (degree)
Period (s)
raw data
edited data
smoothed data

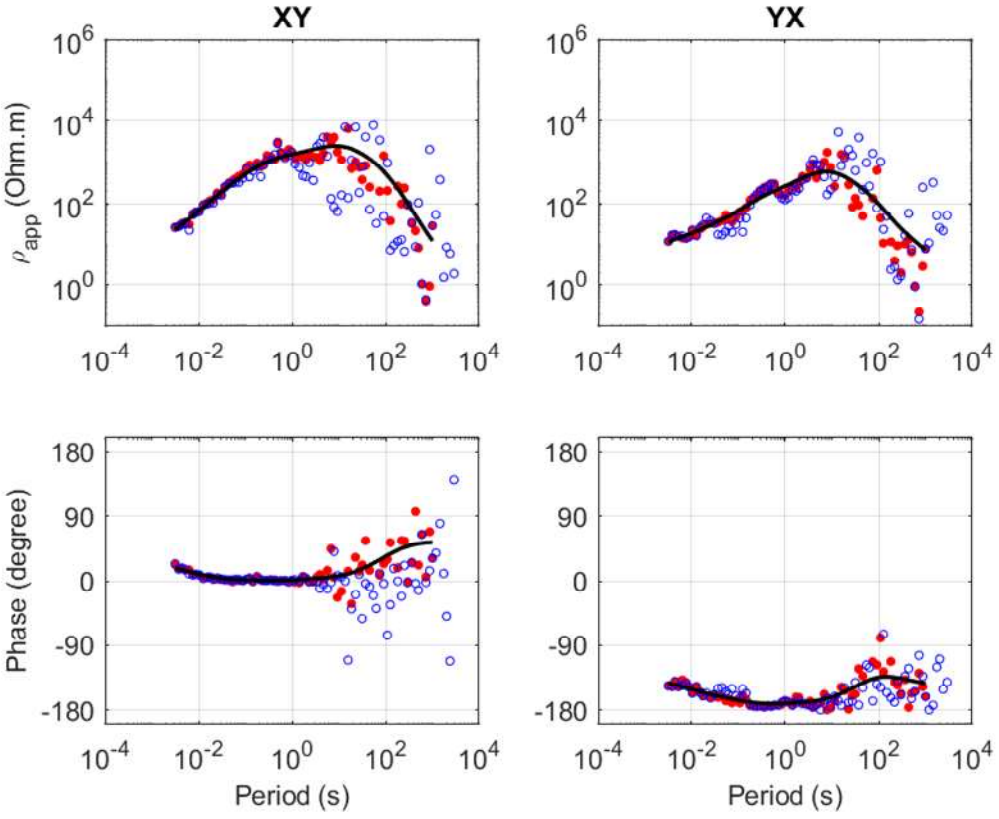
MT-23


XY
YX
ρ_{app} (Ohm.m)
Phase (degree)
Period (s)
raw data
edited data
smoothed data

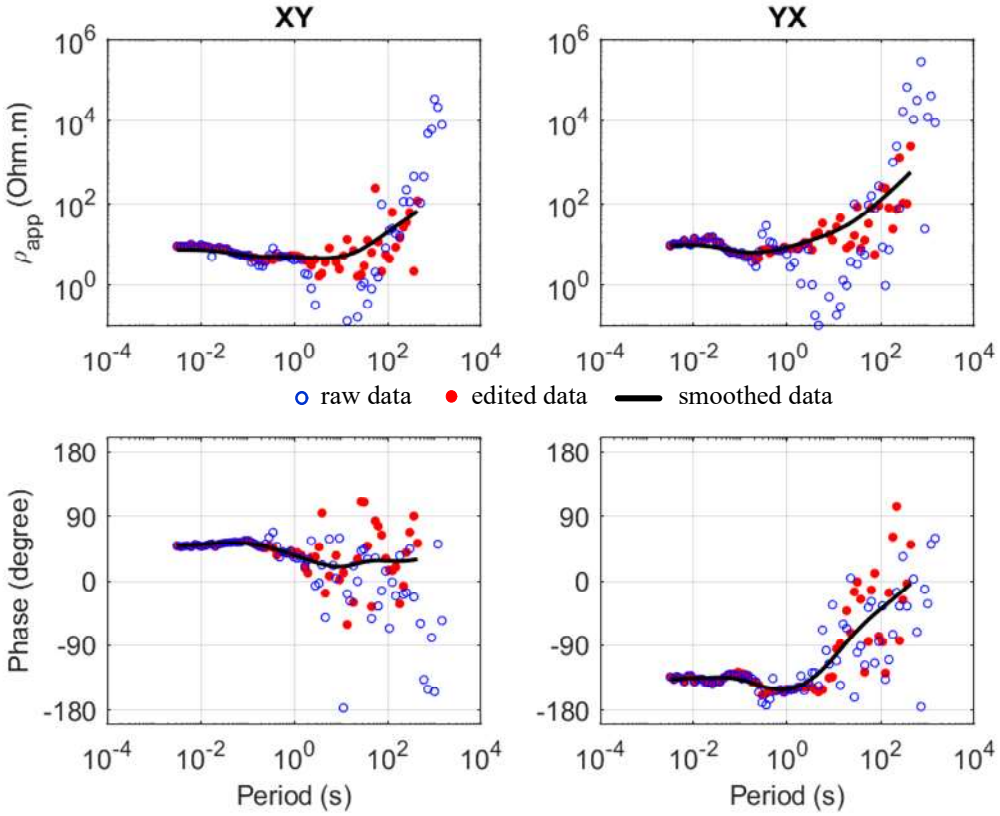
MT-25


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

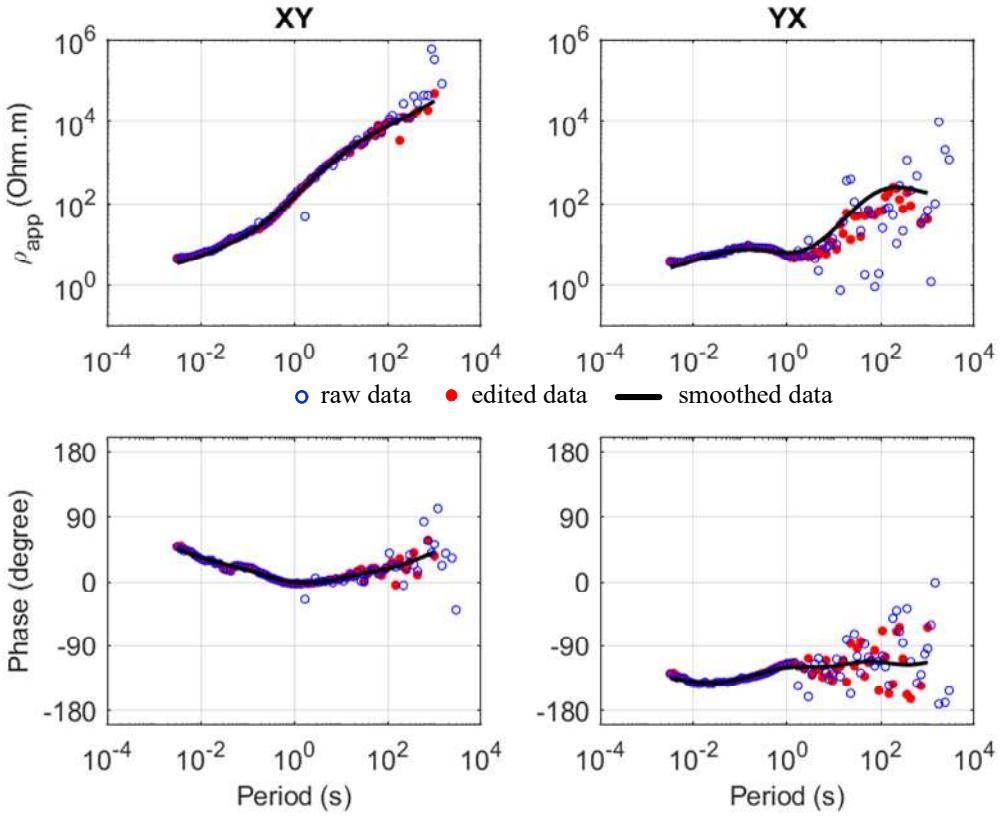
MT-26


XY
YX
ρ_{app} (Ohm.m)
Phase (degree)
Period (s)

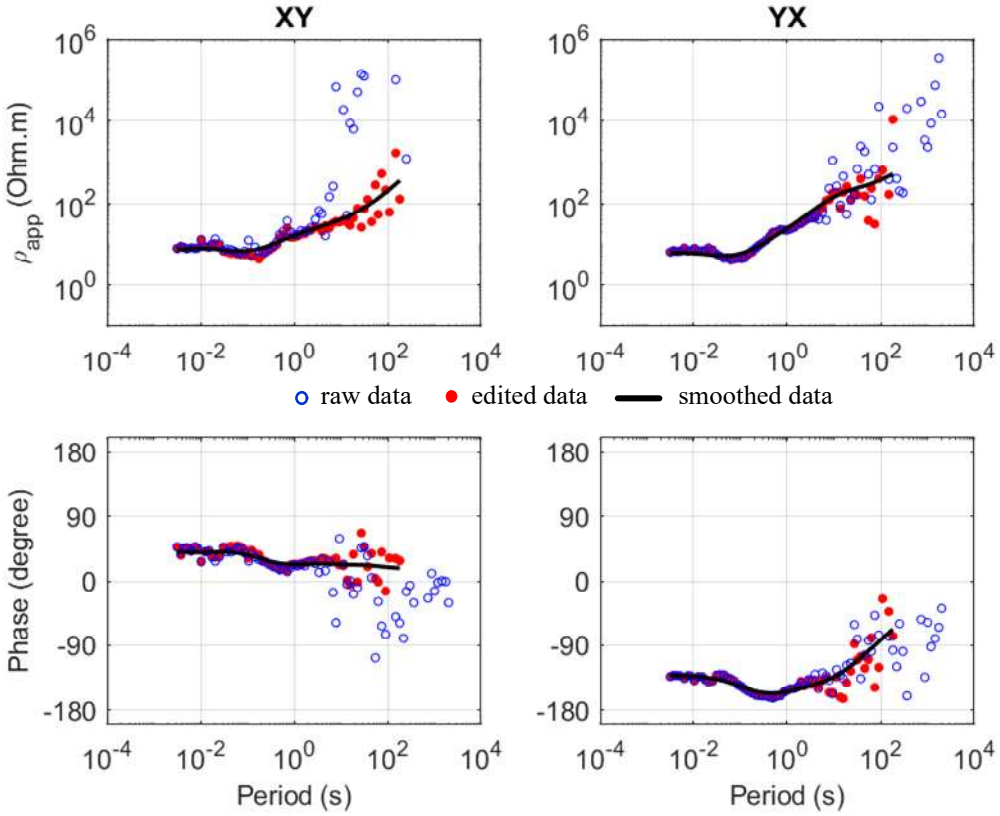
MT-27


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

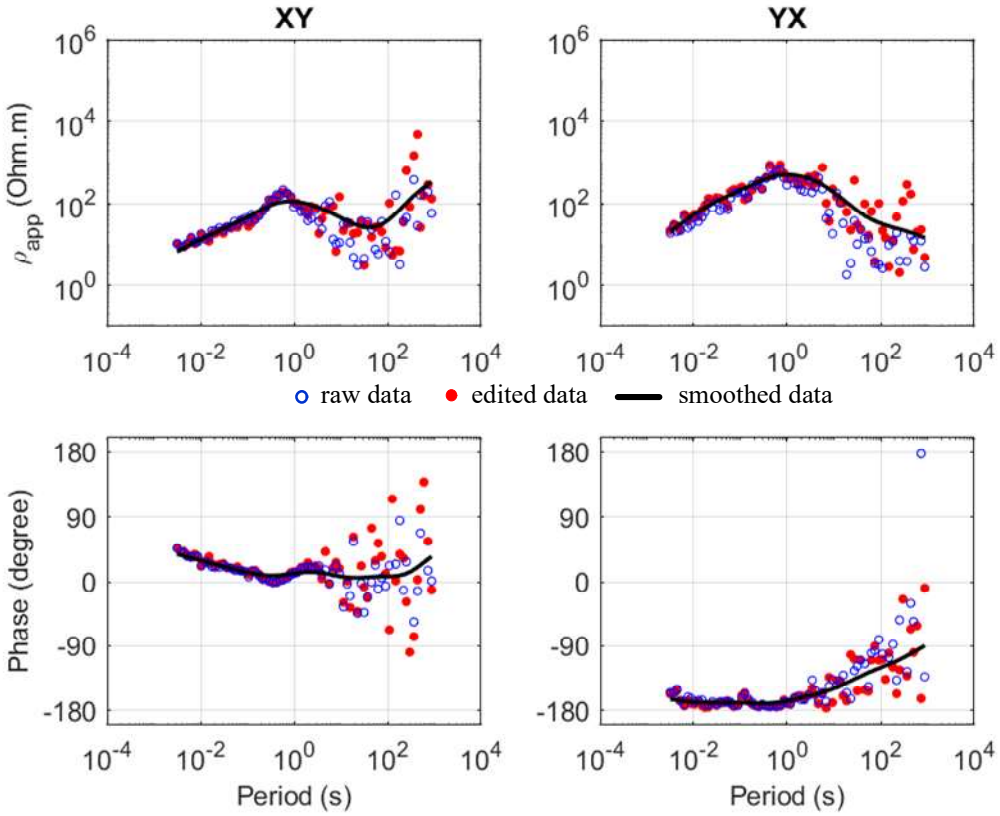
MT-29


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

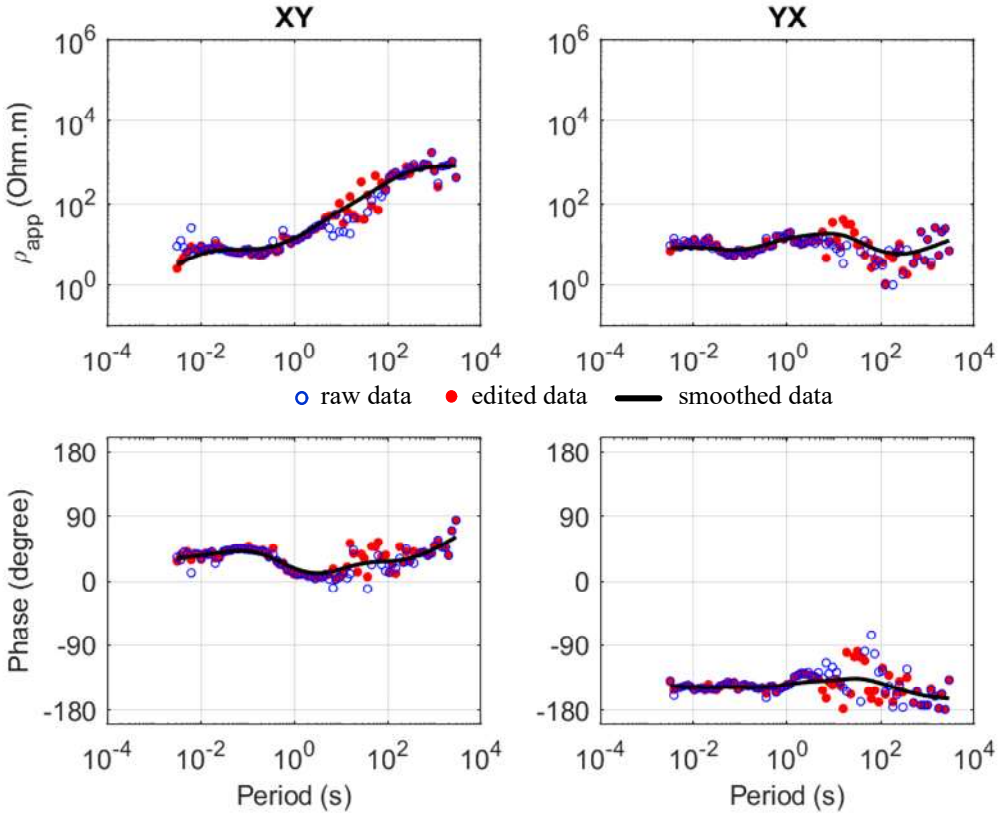
MT-30


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

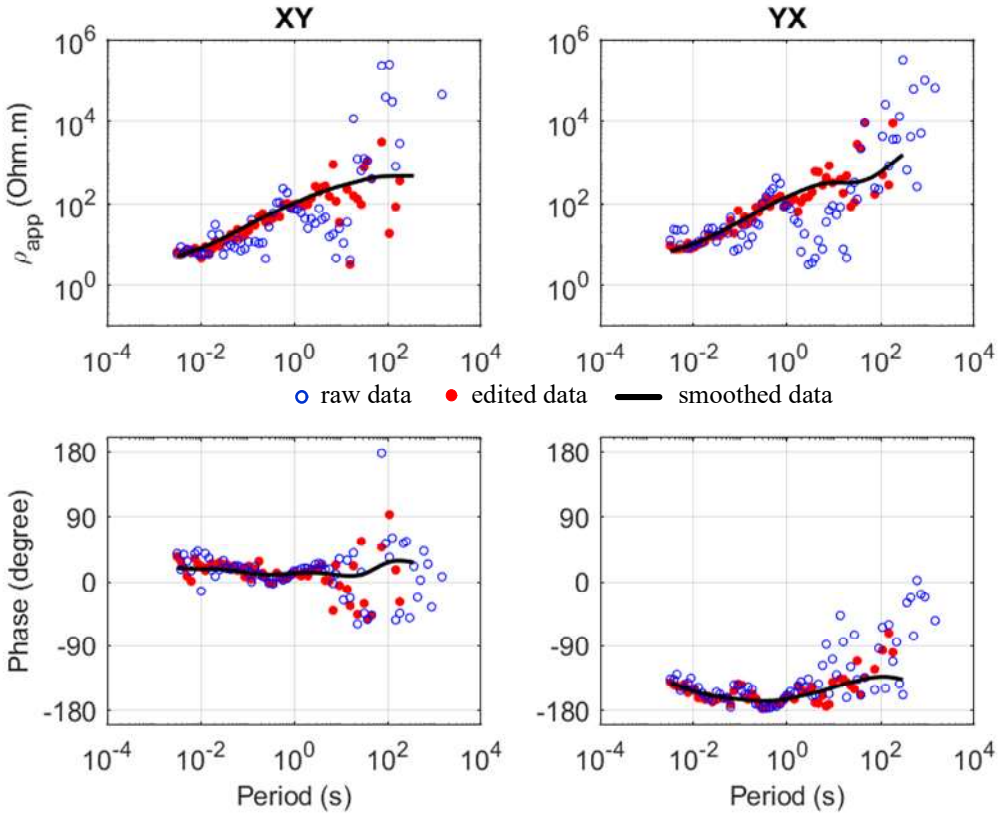
MT-31


XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

MT-33

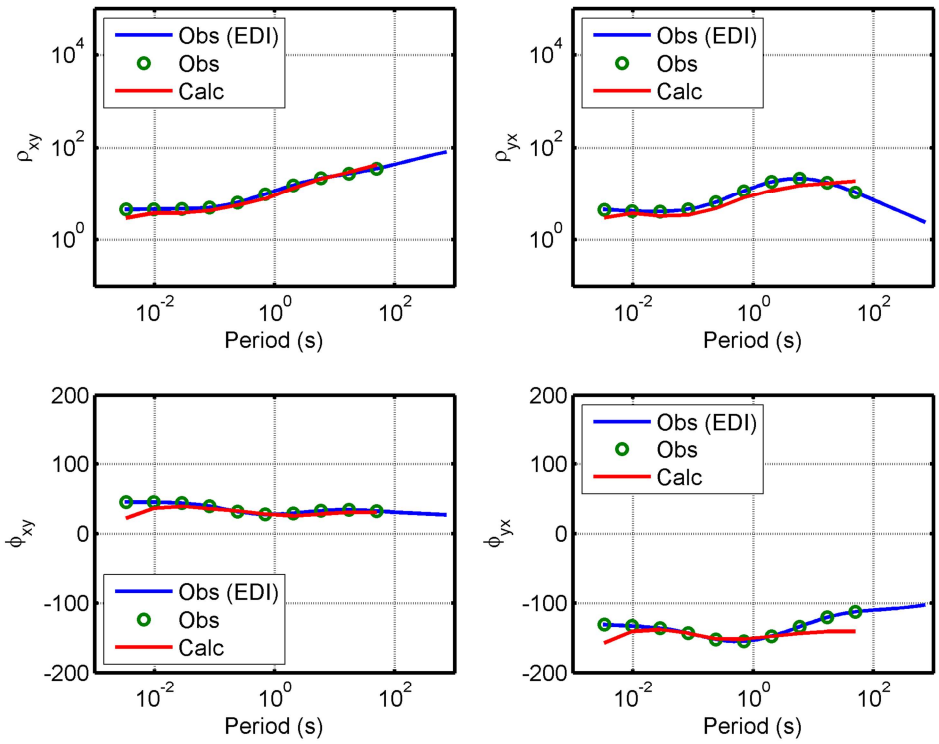

XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

MT-34

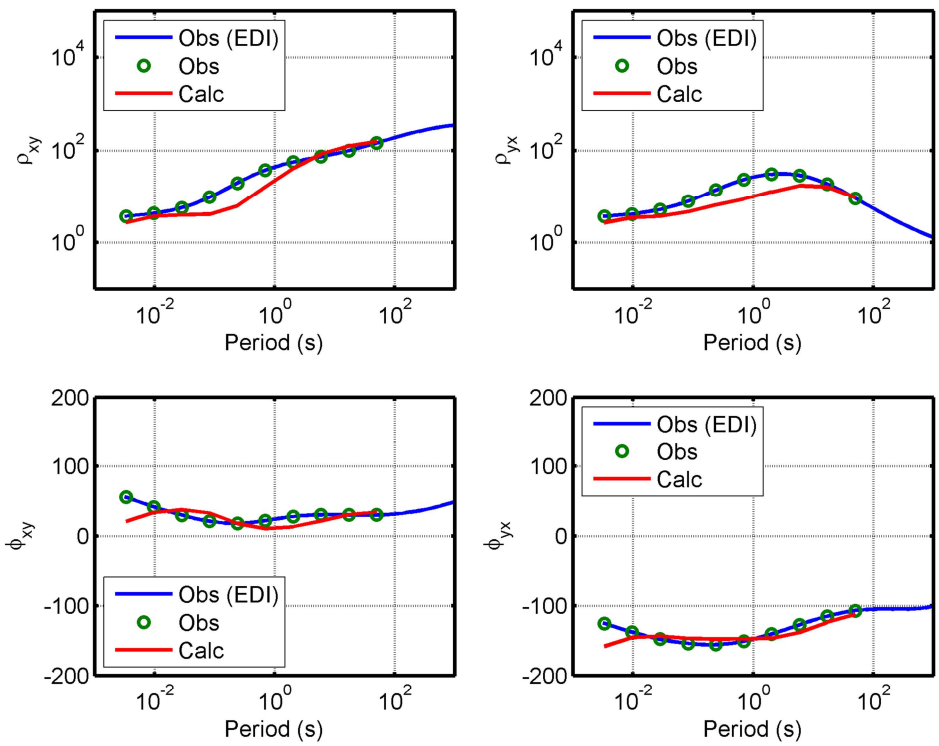

XY
YX
ρ_{app} (Ohm.m)
raw data
edited data
smoothed data
Phase (degree)
Period (s)

Supplementary Material 2. Apparent resistivity and phase fitting between observed and calculated data generated from 3D inversion for MT data from all MT stations. The blue solid line depicts observed field data, the green circles depict resampled data at the ten frequencies chosen, and the red solid line depicts calculated data.

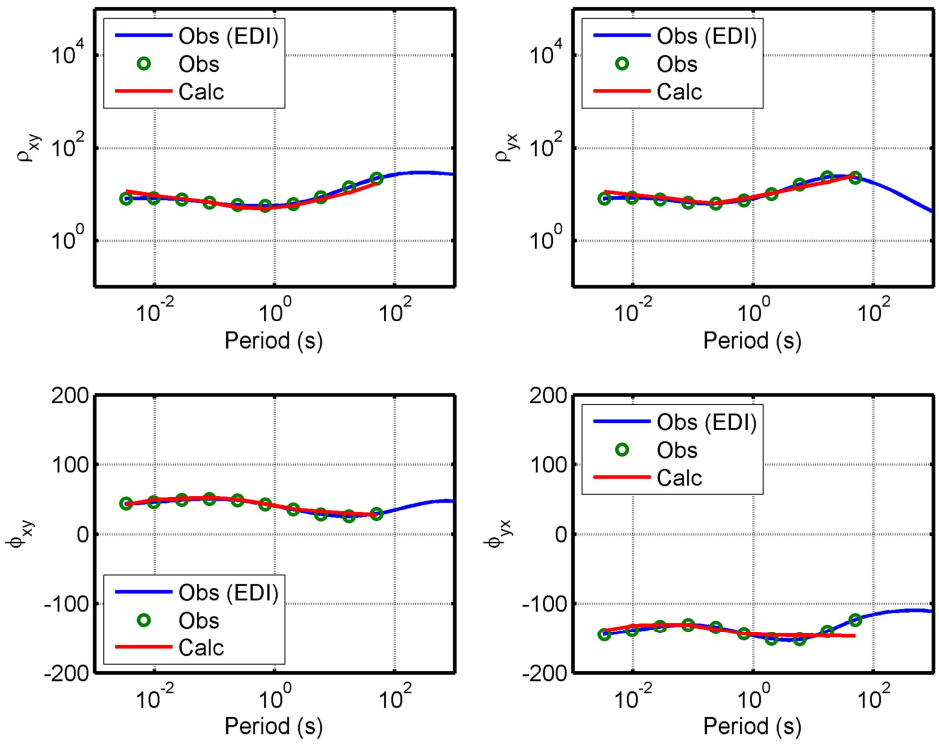
MT-01


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

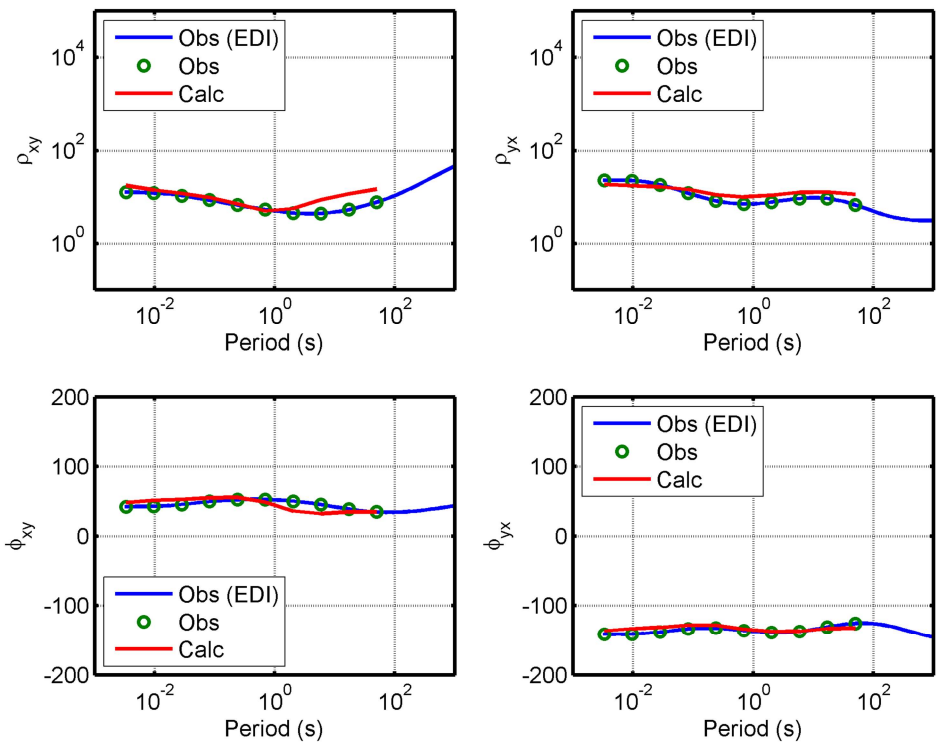
MT-02


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

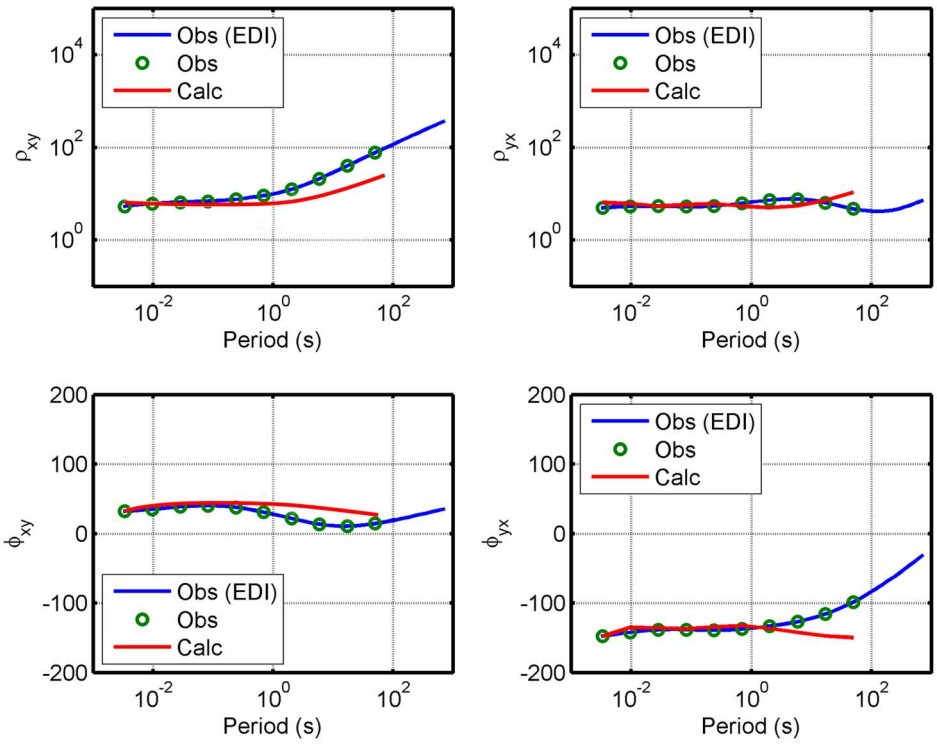
MT-03


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

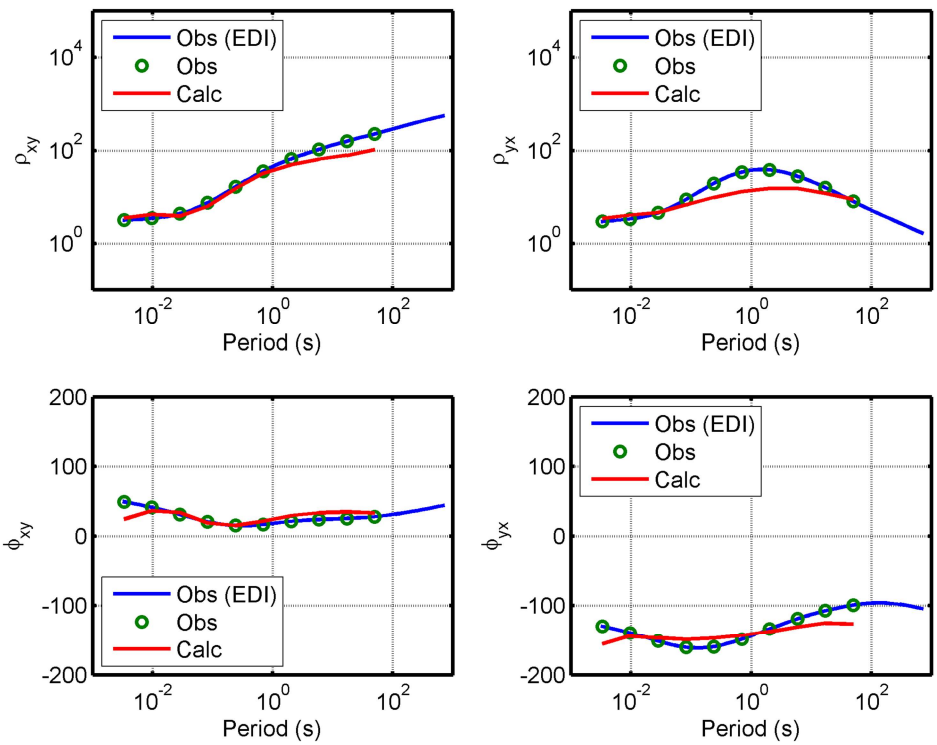
MT-05


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

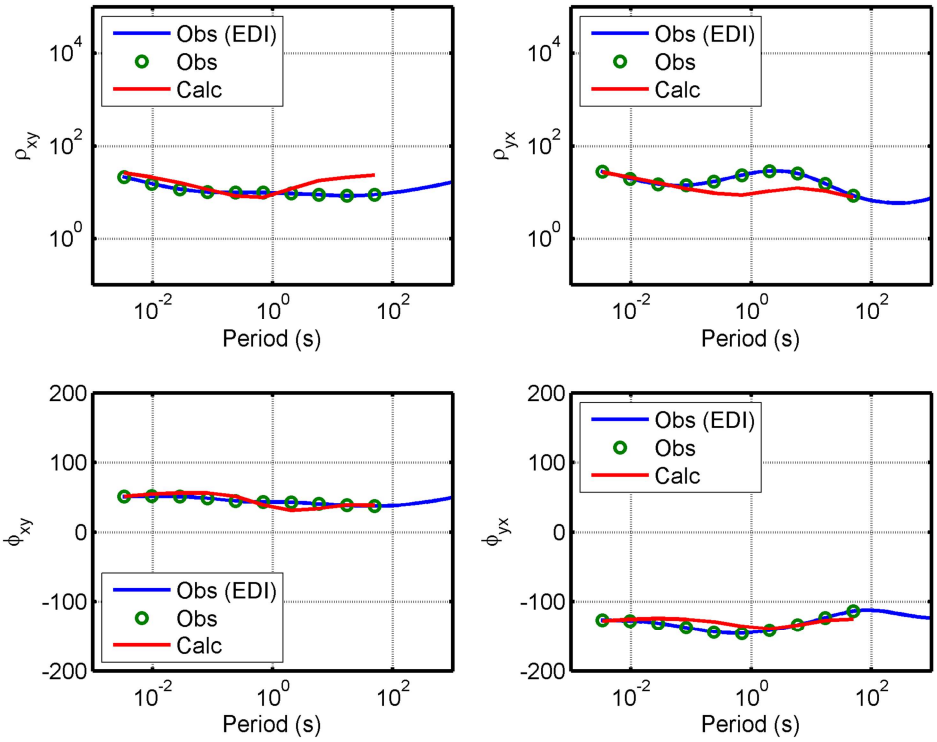
MT-07


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

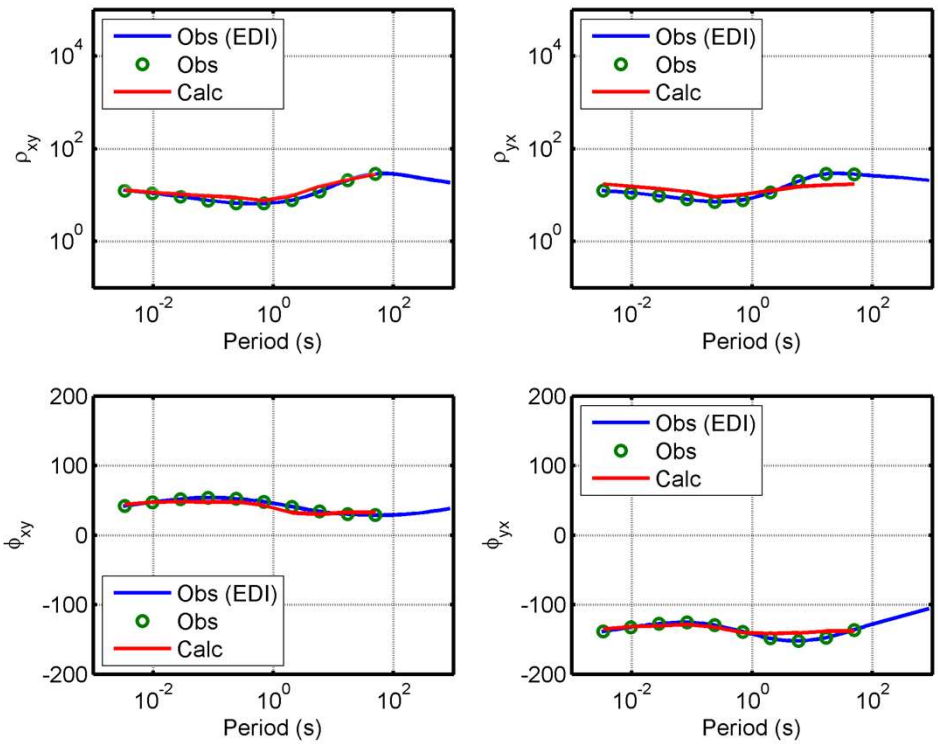
MT-08


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

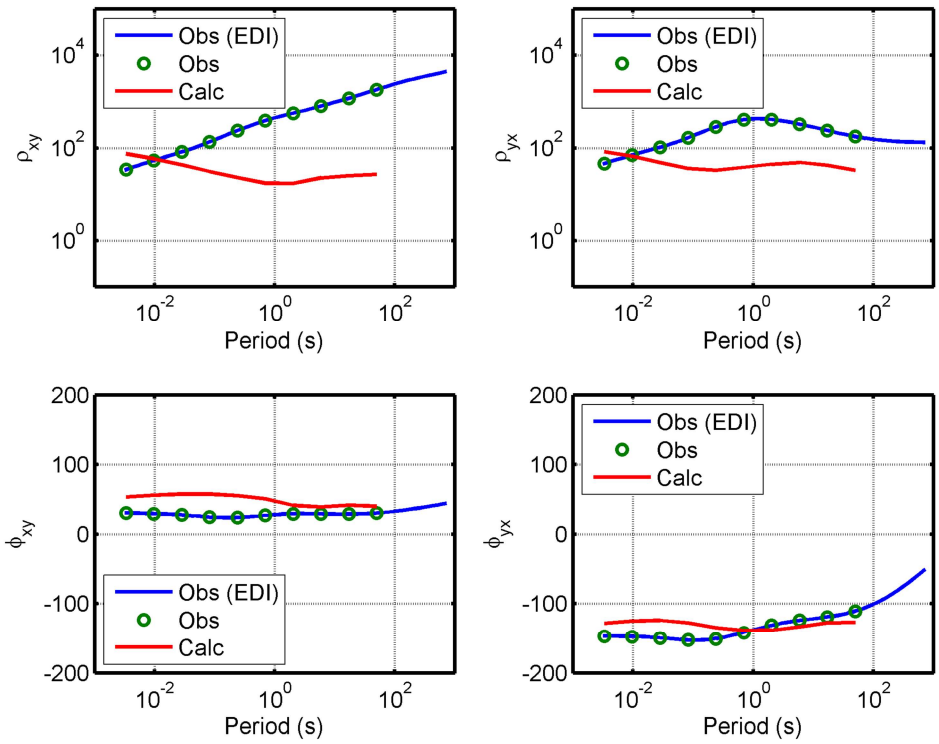
MT-09


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

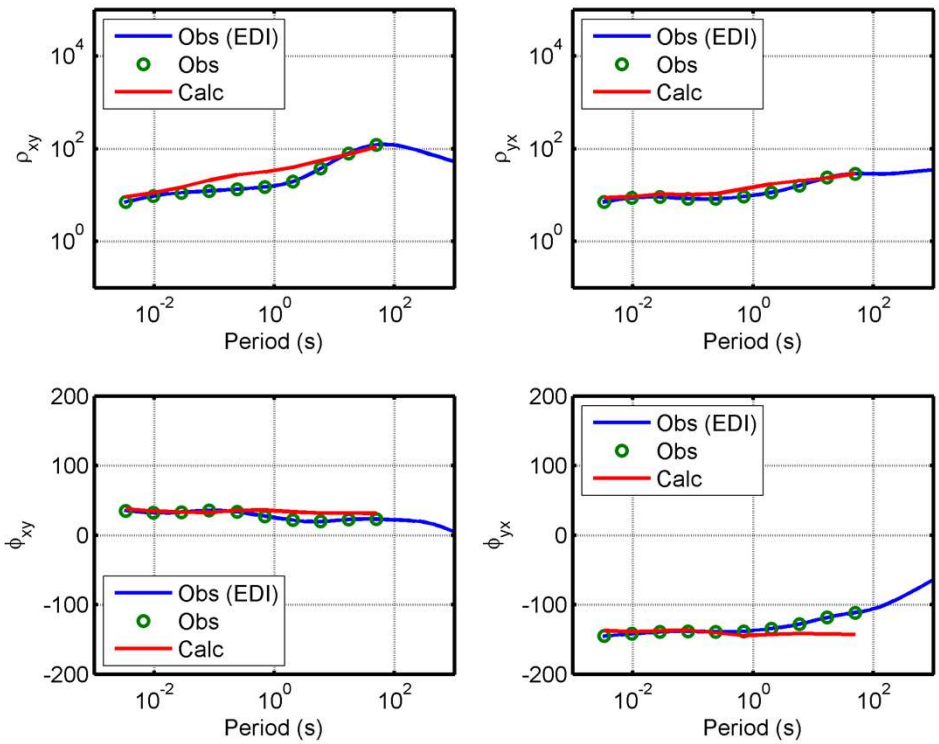
MT-10


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

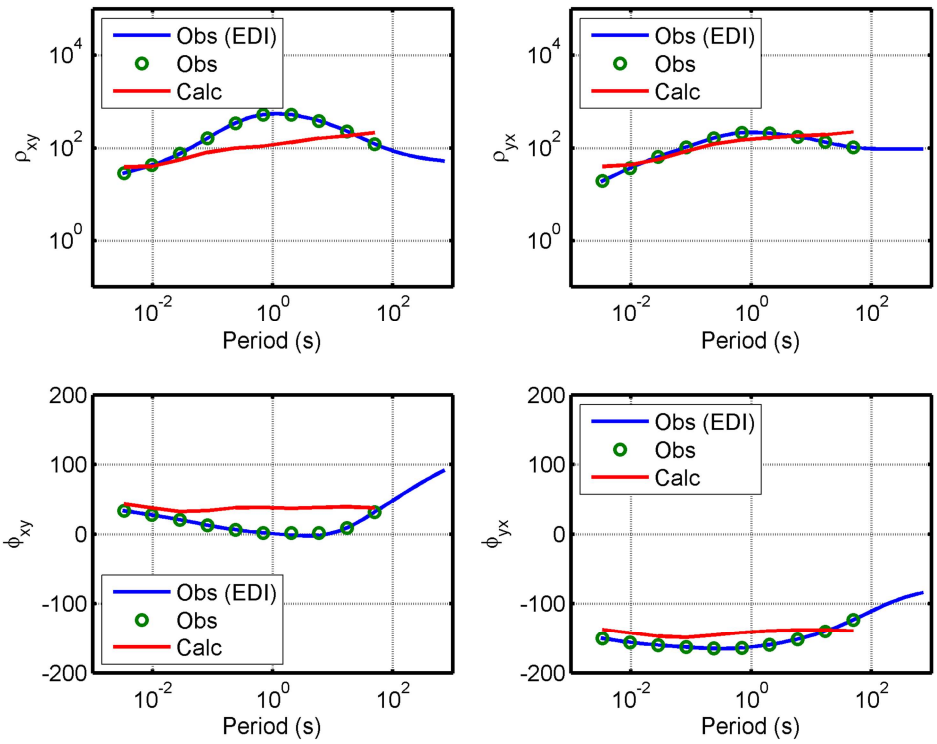
MT-11


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

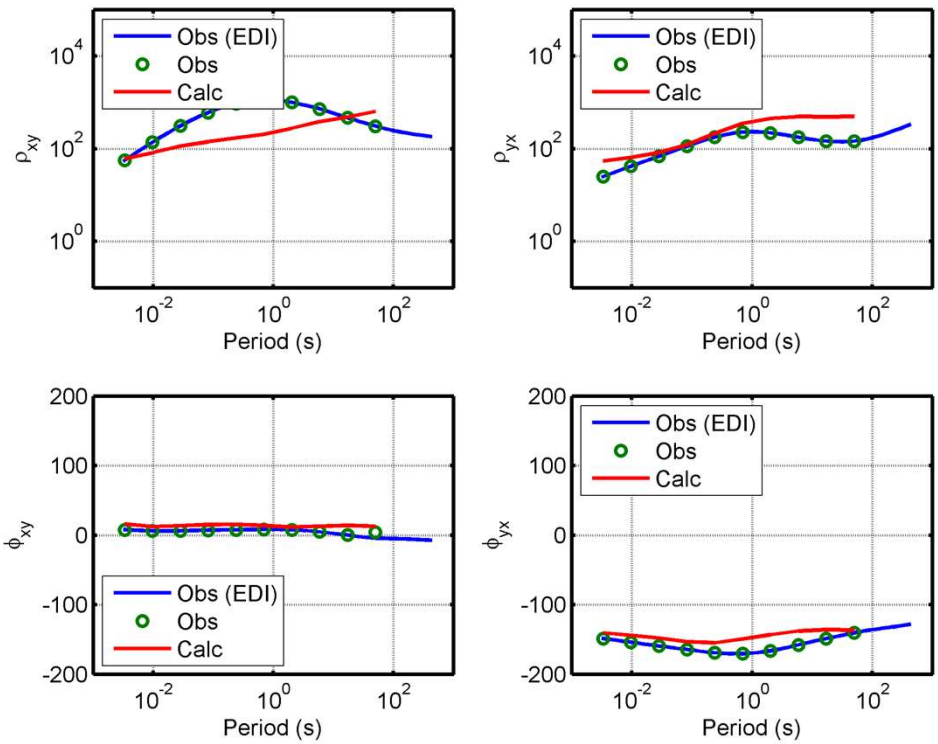
MT-12


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

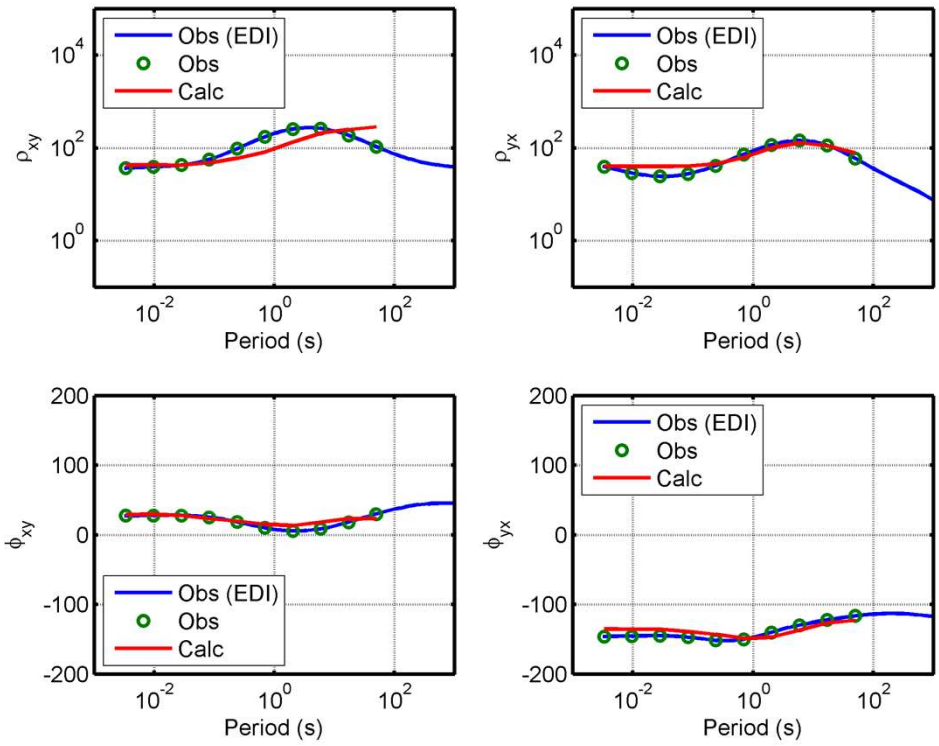
MT-13


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

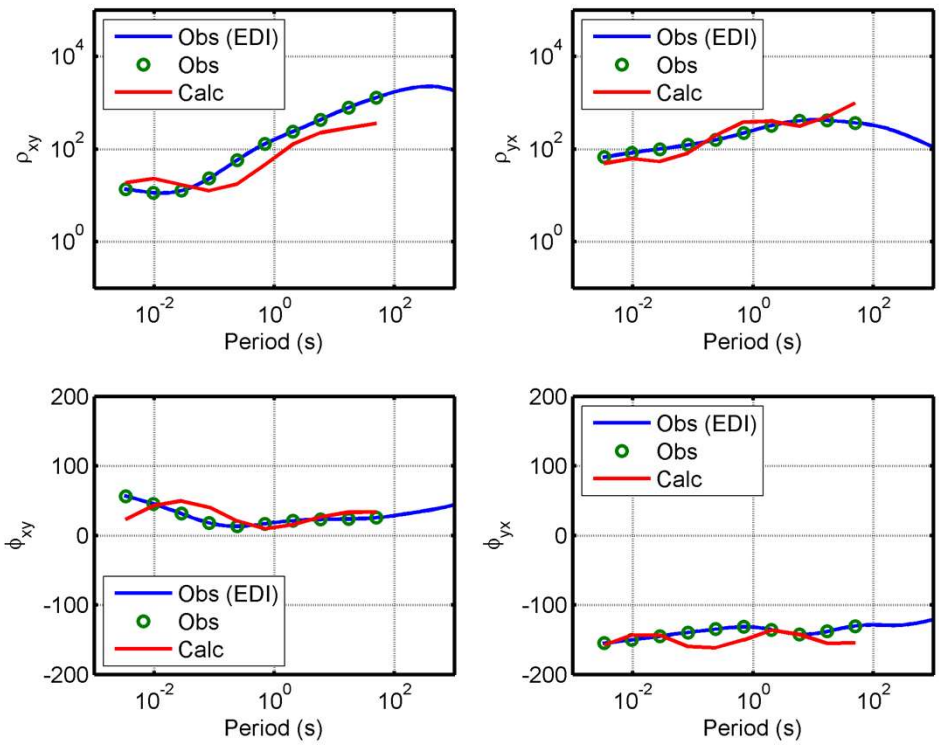
MT-15


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

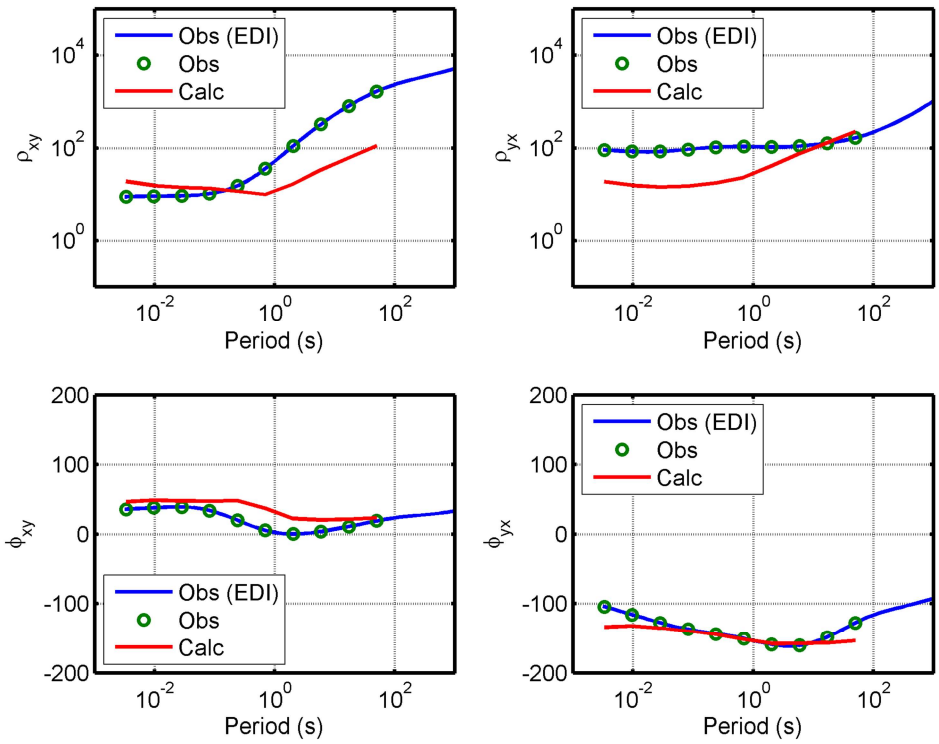
MT-17


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

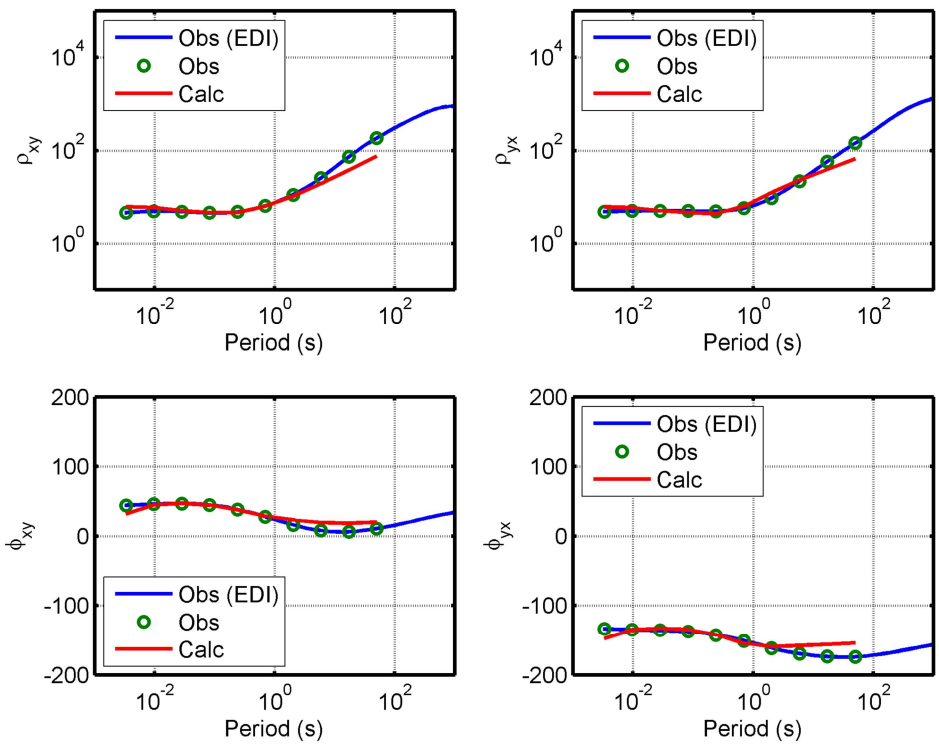
MT-18


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

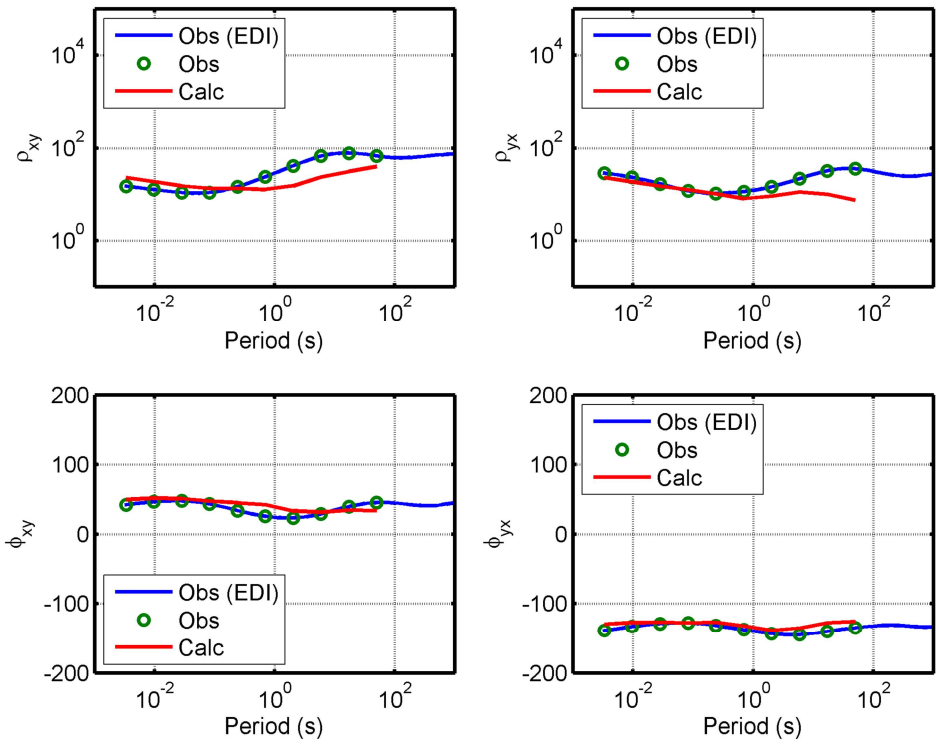
MT-19


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

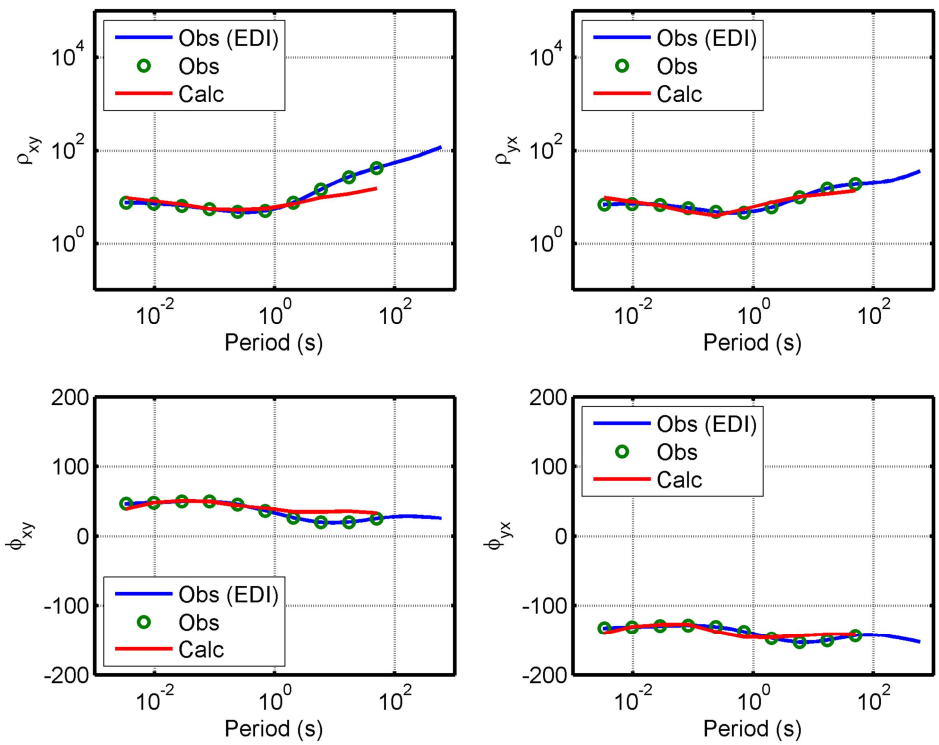
MT-21


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

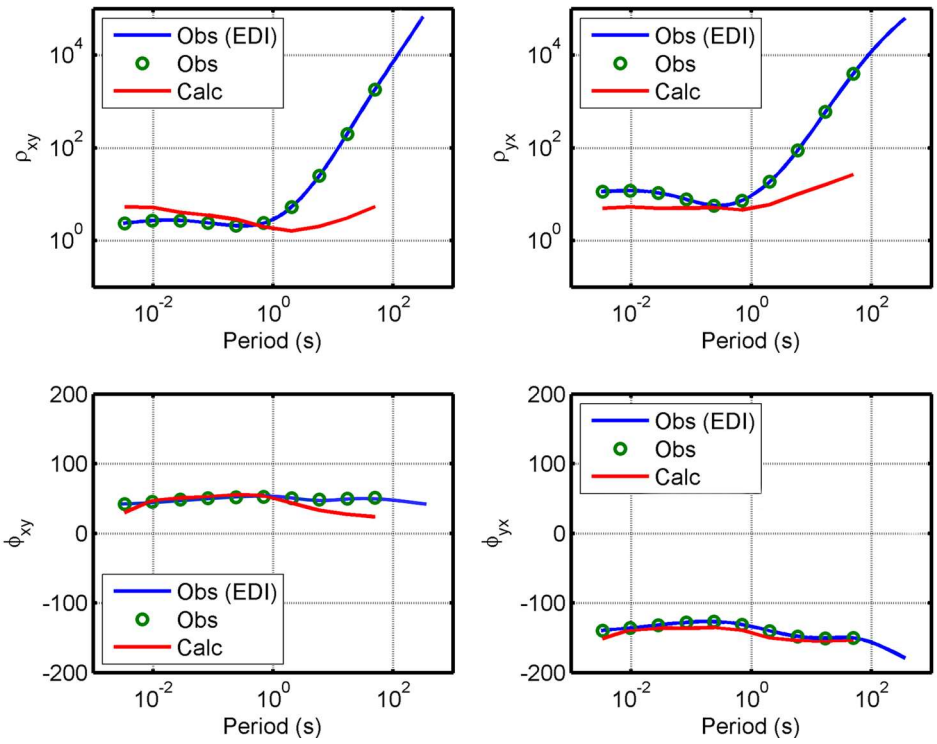
MT-22


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

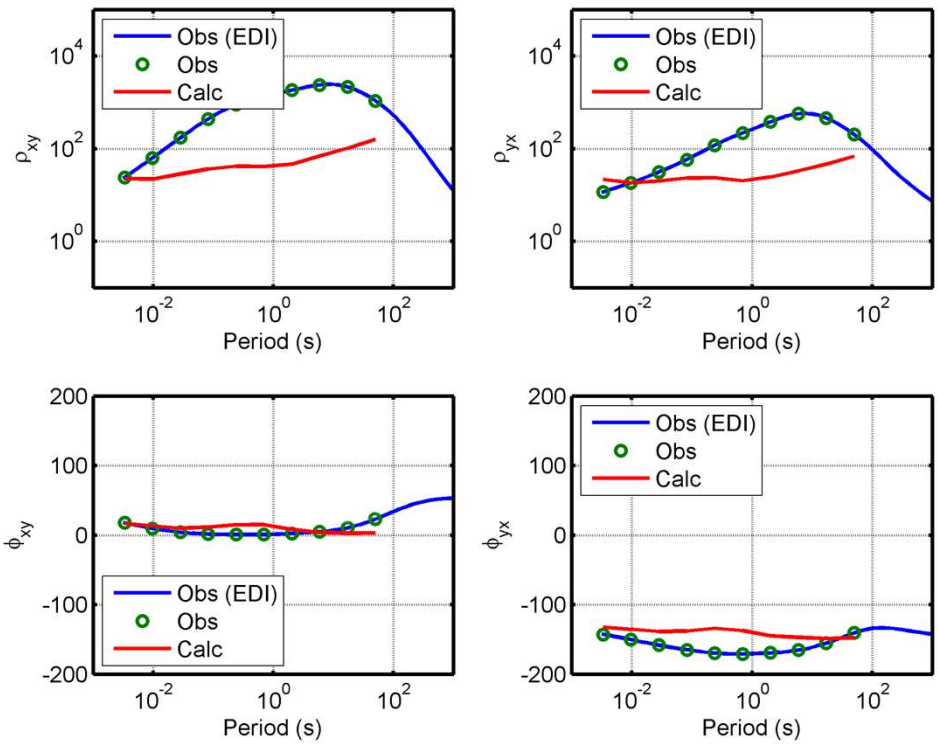
MT-23


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

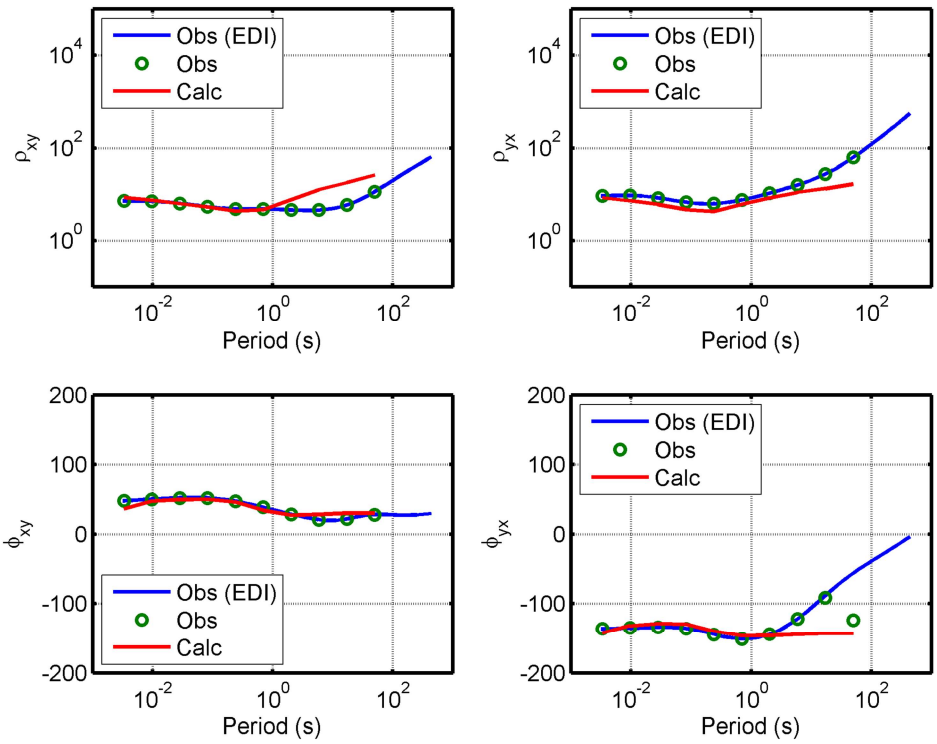
MT-25


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

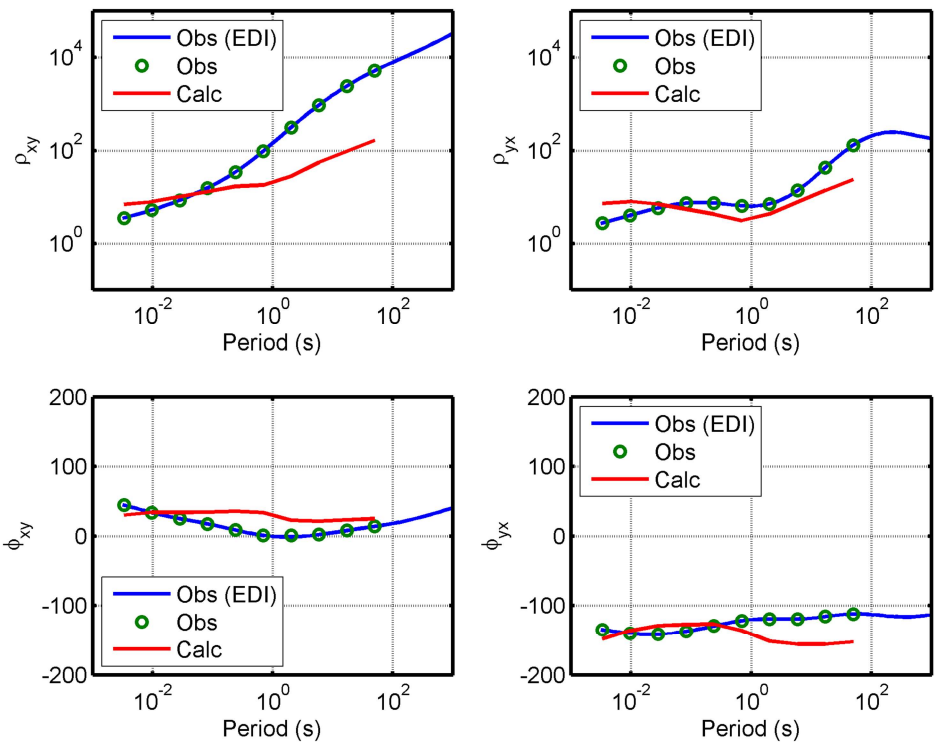
MT-26


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

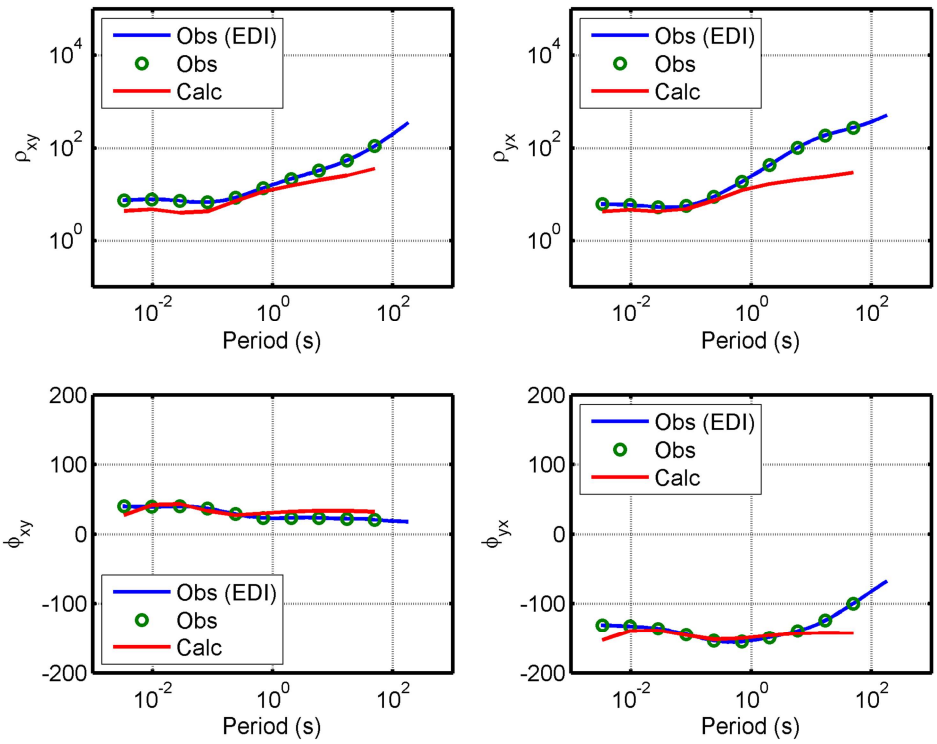
MT-27


Obs (EDI)
Obs
Calc
ρ_{xy}
ρ_{yx}
ϕ_{xy}
ϕ_{yx}
Period (s)

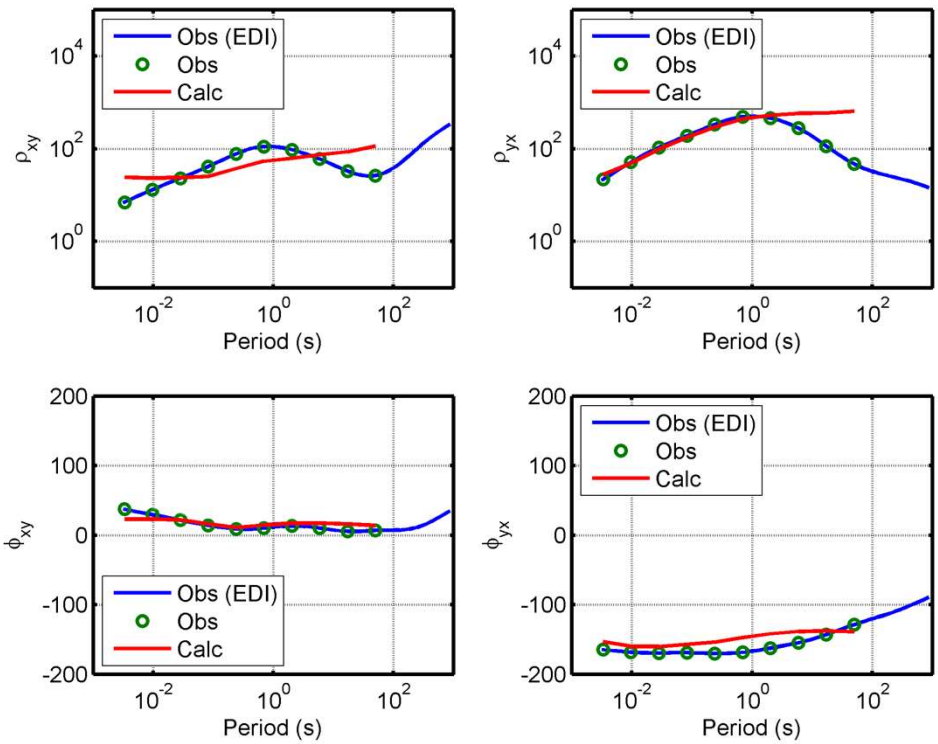
MT-29


Obs (EDI)
Obs
Calc
ρ_{xy}
ρ_{yx}
ϕ_{xy}
ϕ_{yx}
Period (s)

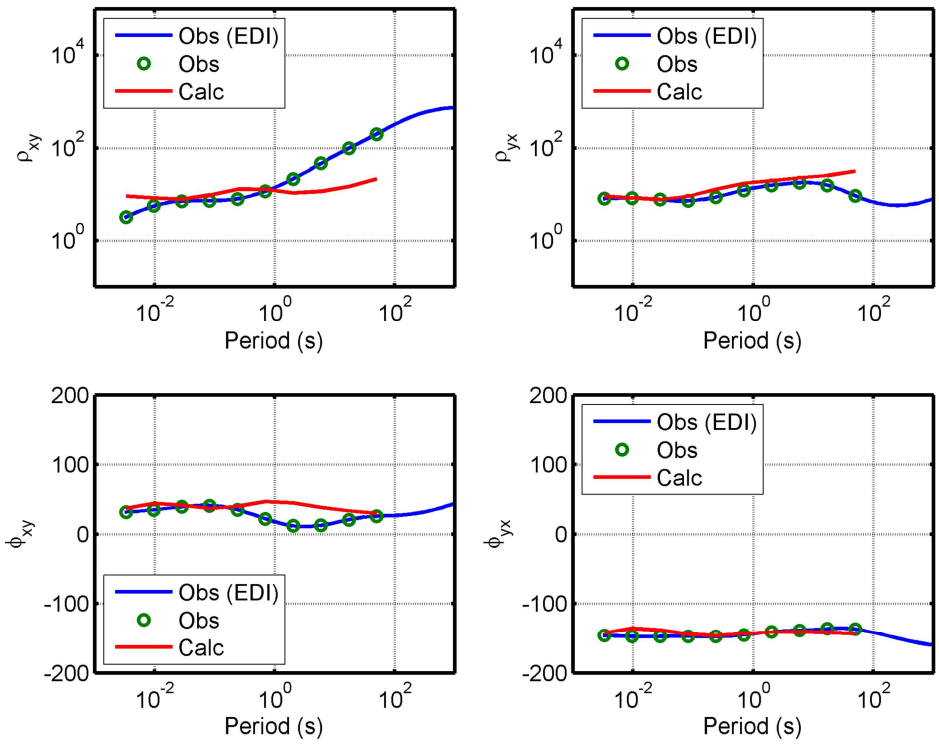
MT-30


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

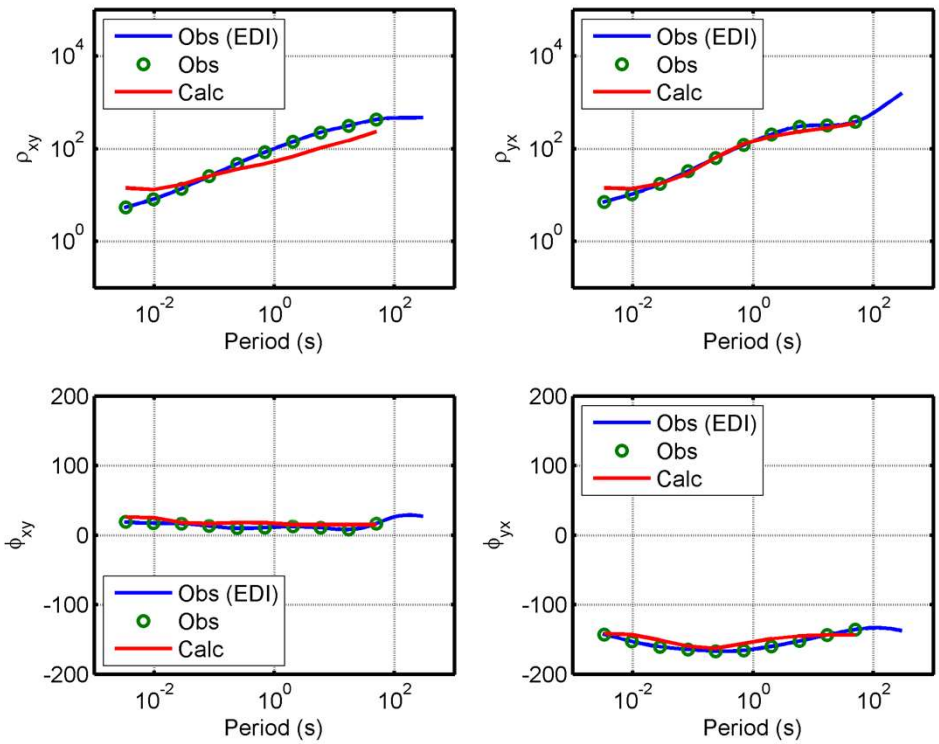
MT-31


Obs (EDI)
Obs
Calc
ρxy
ρyx
ϕxy
ϕyx
Period (s)

MT-33


Obs (EDI)
Obs
Calc
ρ_{xy}
ρ_{yx}
ϕ_{xy}
ϕ_{yx}
Period (s)

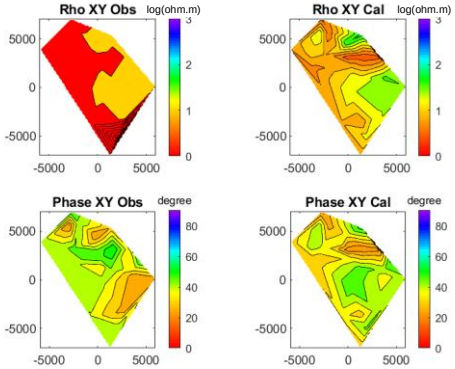
MT-34


Obs (EDI)
Obs
Calc
ρ_{xy}
ρ_{yx}
ϕ_{xy}
ϕ_{yx}
Period (s)

Supplementary Material 3. The comparison between the observed and the calculated data in terms of apparent resistivity and phase of impedance maps, as well as their RMS values for all periods.

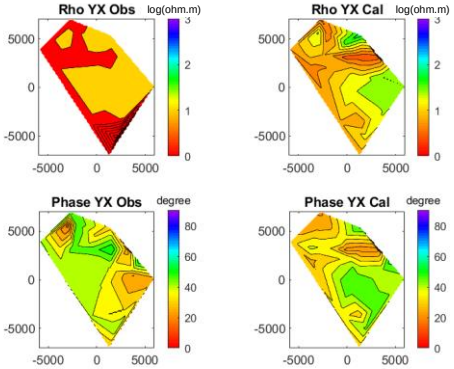
Period = 0.0033 s

RMS Rho XY = 1.40 | RMS Phs XY = 14.28



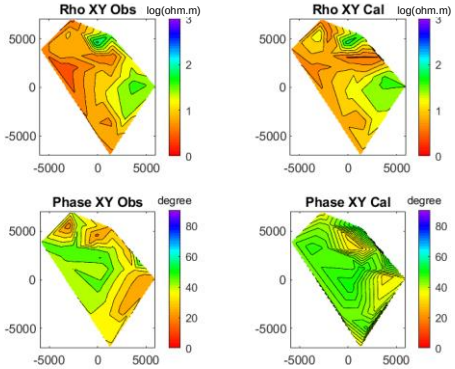
Period = 0.0033 s

RMS Rho YX = 1.41 | RMS Phs YX = 13.67



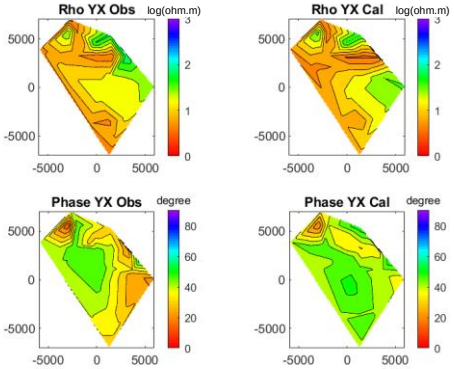
Period = 0.0096 s

RMS Rho XY = 0.20 | RMS Phs XY = 9.73



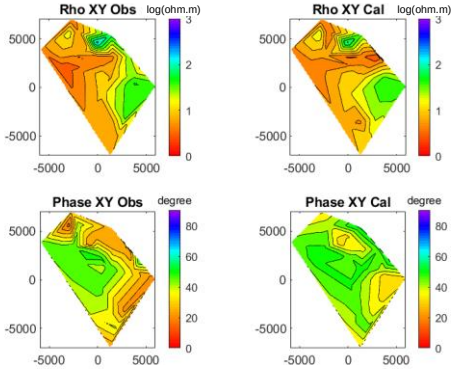
Period = 0.0096 s

RMS Rho YX = 0.31 | RMS Phs YX = 8.78



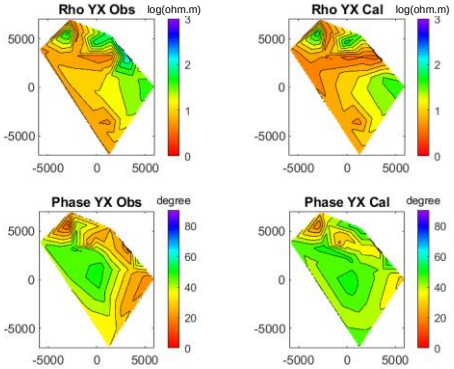
Period = 0.0282 s

RMS Rho XY = 0.23 | RMS Phs XY = 10.93



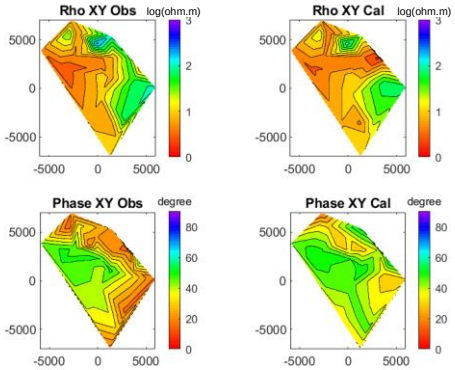
Period = 0.0282 s

RMS Rho YX = 0.36 | RMS Phs YX = 9.02



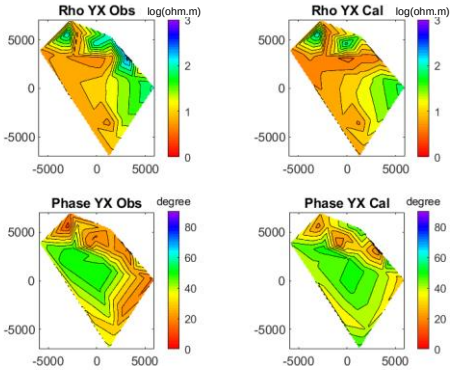
Period = 0.0822 s

RMS Rho XY = 0.33 | RMS Phs XY = 12.08



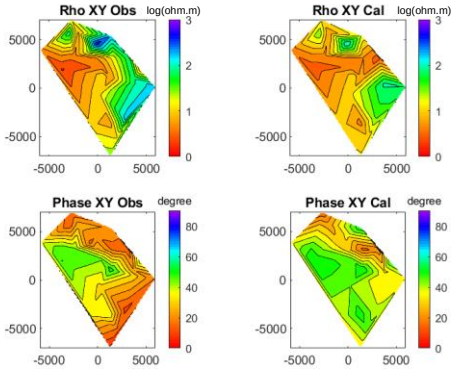
Period = 0.0822 s

RMS Rho YX = 0.39 | RMS Phs YX = 9.39



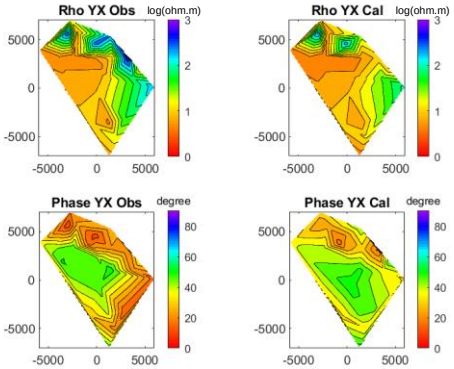
Period = 0.2392 s

RMS Rho XY = 0.43 | RMS Phs XY = 13.72



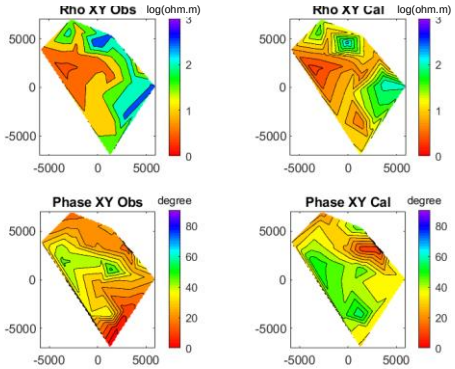
Period = 0.2392 s

RMS Rho YX = 0.42 | RMS Phs YX = 10.50



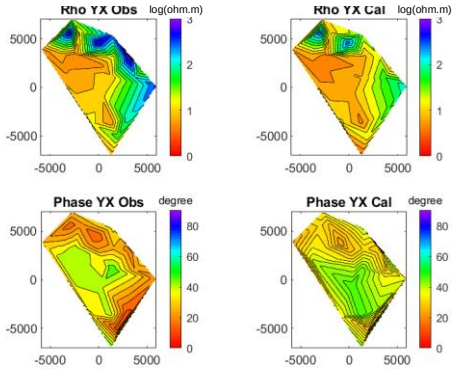
Period = 0.8772 s

RMS Rho XY = 0.52 | RMS Phs XY = 14.28



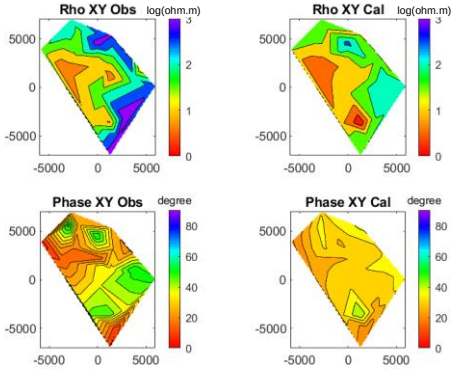
Period = 0.8772 s

RMS Rho YX = 0.48 | RMS Phs YX = 9.64



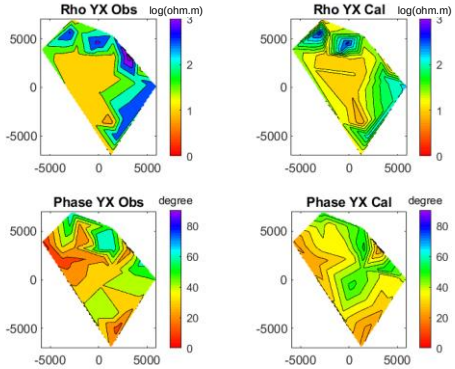
Period = 2.0408 s

RMS Rho XY = 0.61 | RMS Phs XY = 10.38



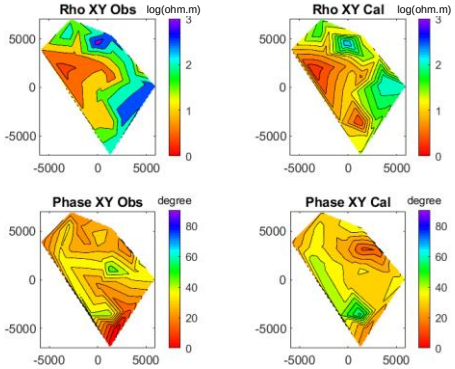
Period = 2.0408 s

RMS Rho YX = 0.55 | RMS Phs YX = 8.74



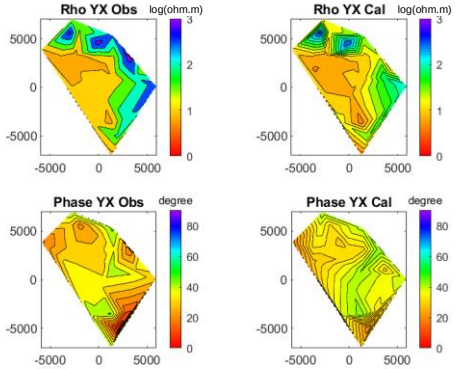
Period = 5.8823 s

RMS Rho XY = 0.65 | RMS Phs XY = 9.88



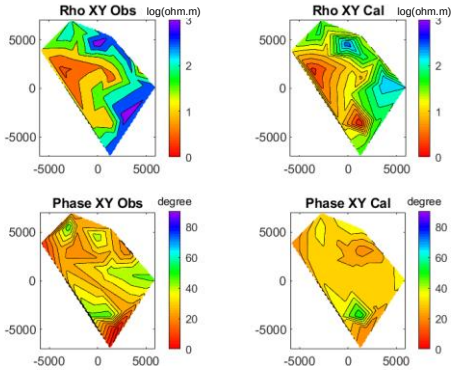
Period = 5.8823 s

RMS Rho YX = 0.61 | RMS Phs YX = 9.22



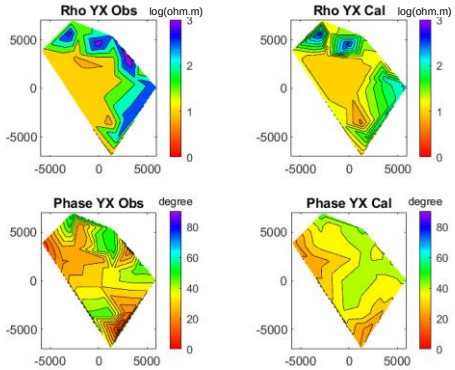
Period = 16.6667 s

RMS Rho XY = 0.70 | RMS Phs XY = 11.90



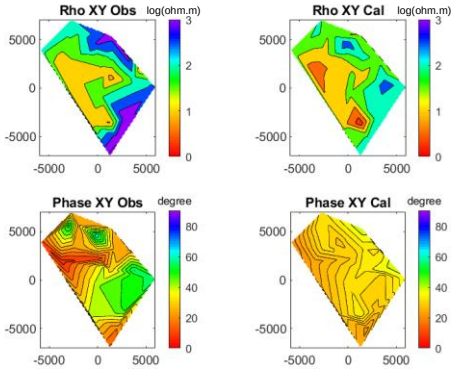
Period = 16.6667 s

RMS Rho YX = 0.62 | RMS Phs YX = 11.67



Period = 50 s

RMS Rho XY = 0.71 | RMS Phs XY = 13.78



Period = 50 s

RMS Rho YX = 0.61 | RMS Phs YX = 14.88