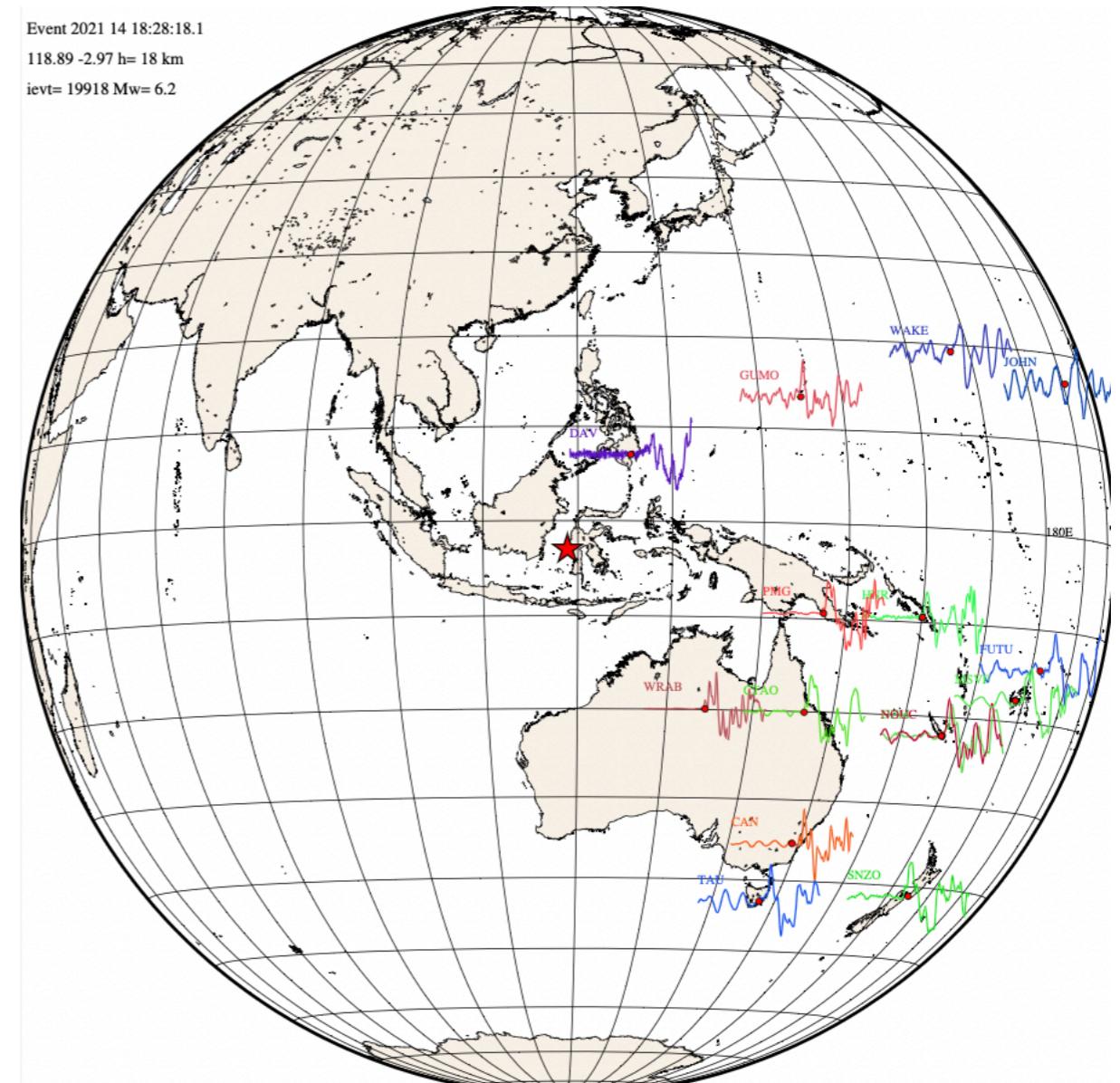
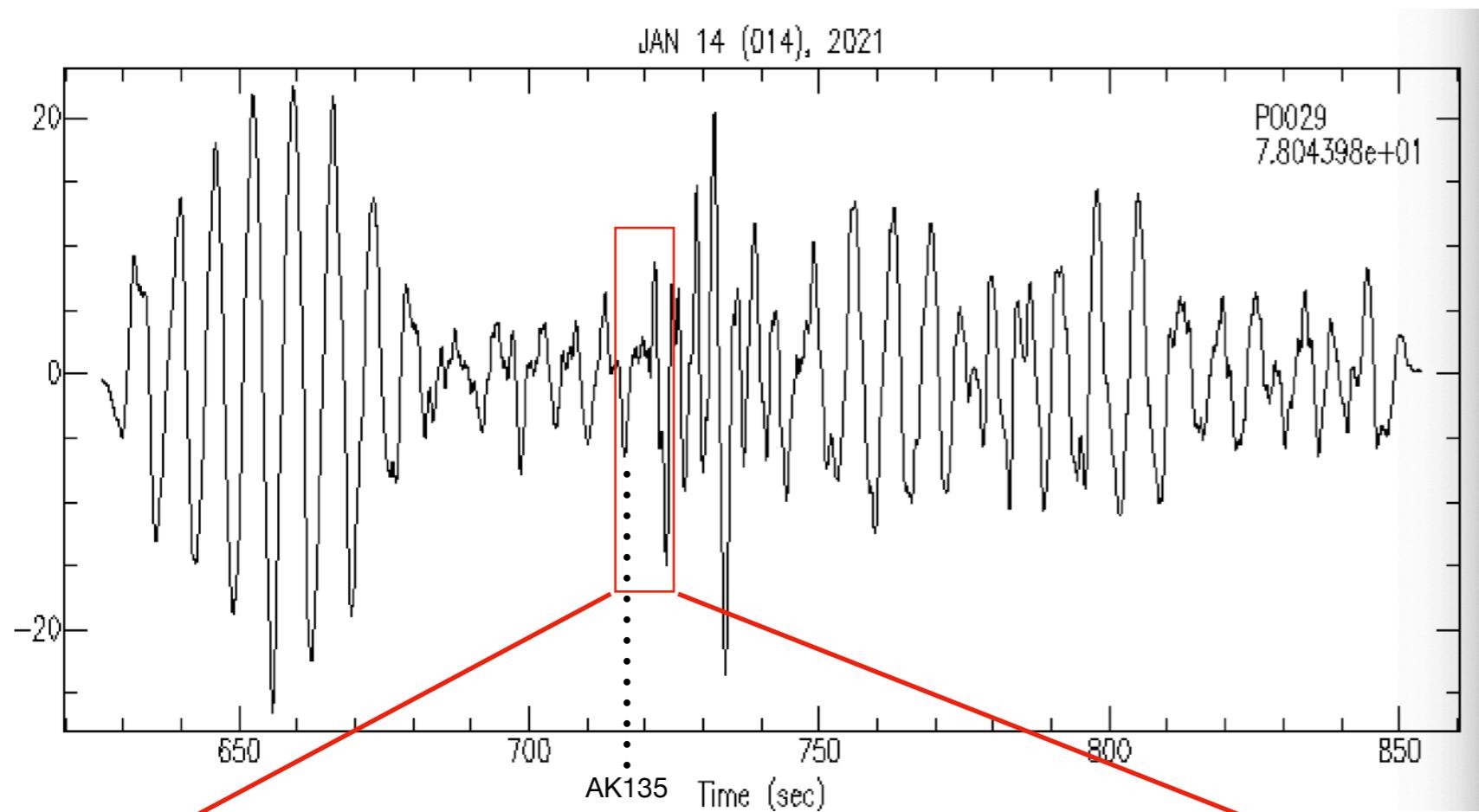


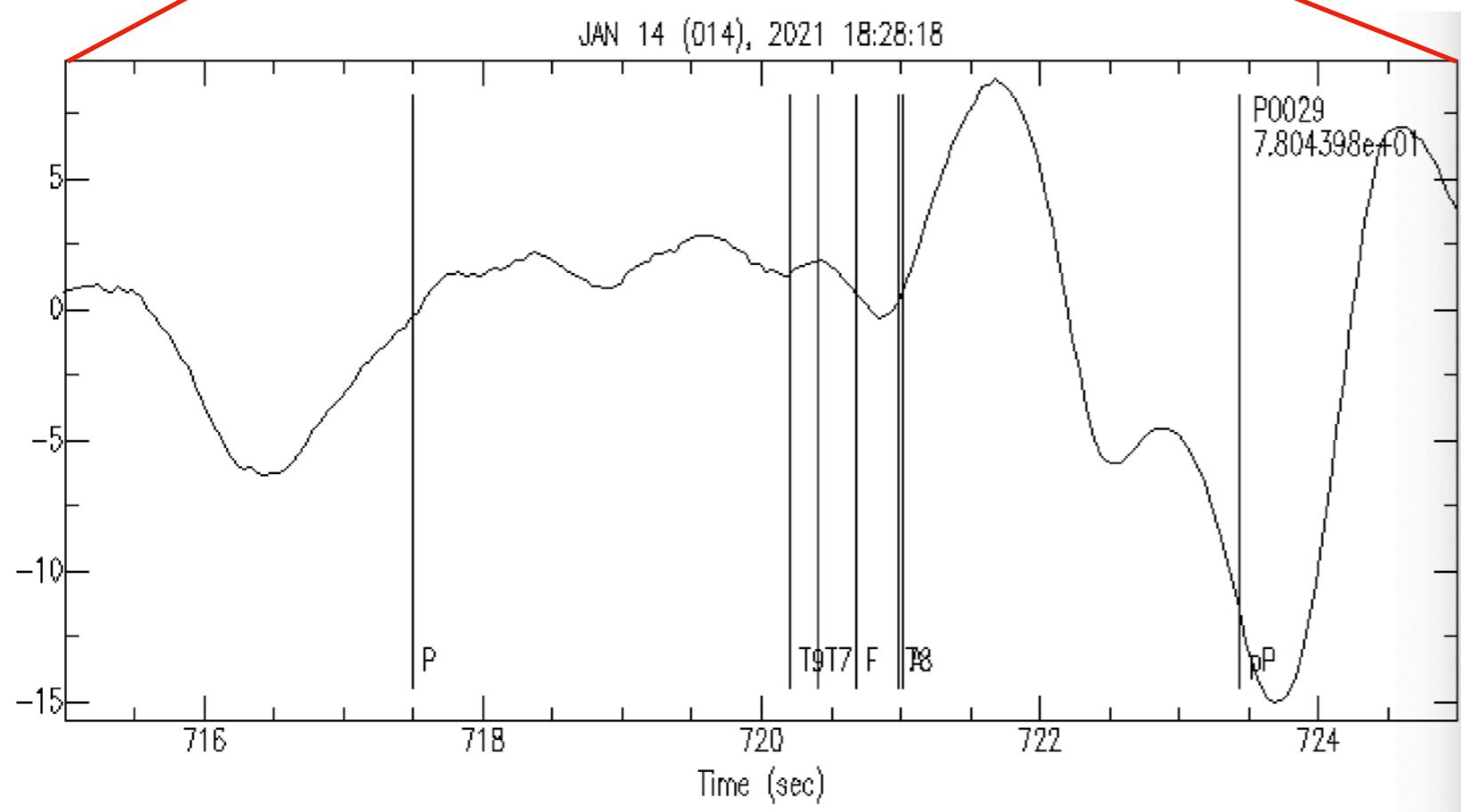
Polarity: all UP,
Confirmed by looking at plot

So we must look for a *positive onset*

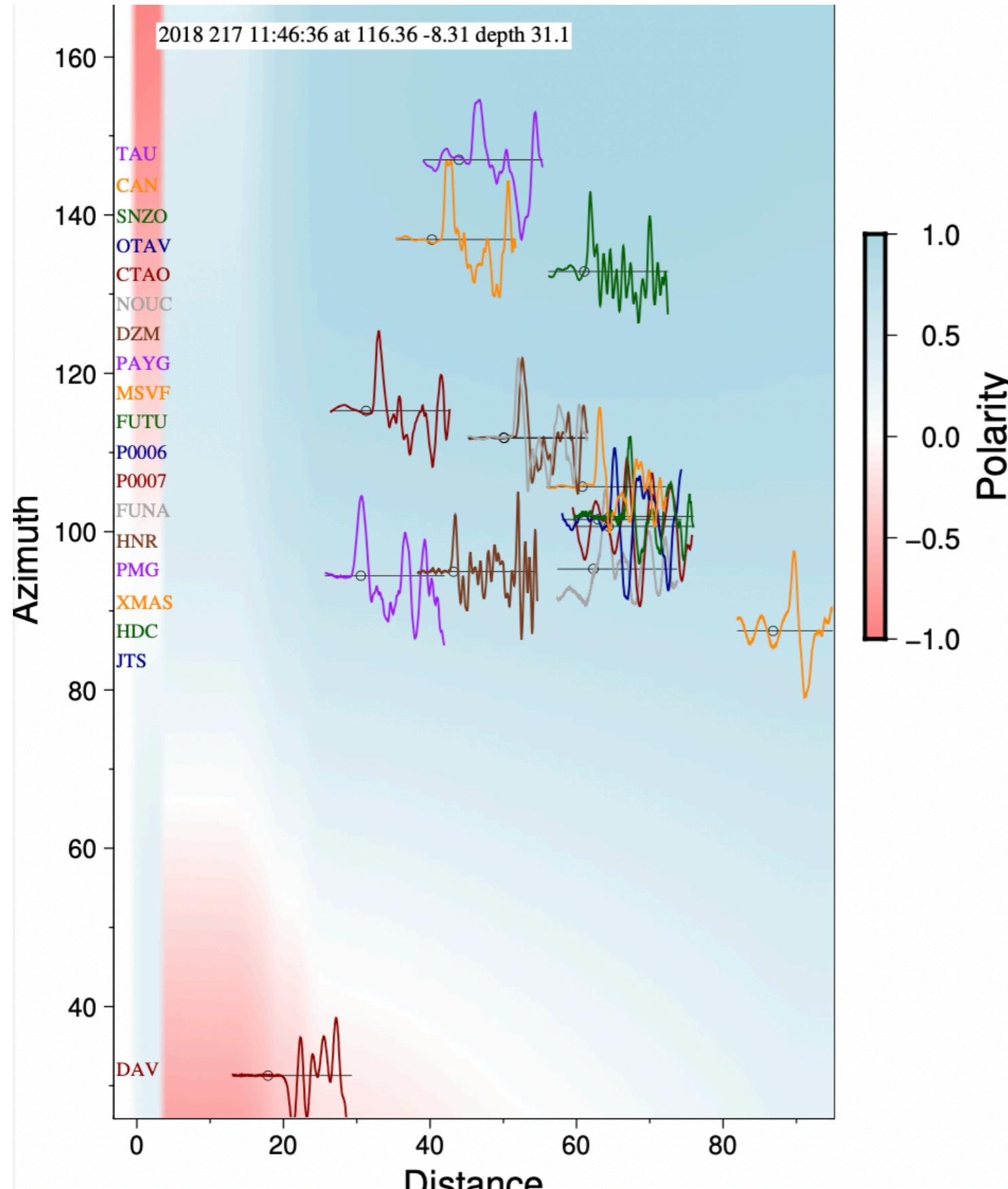




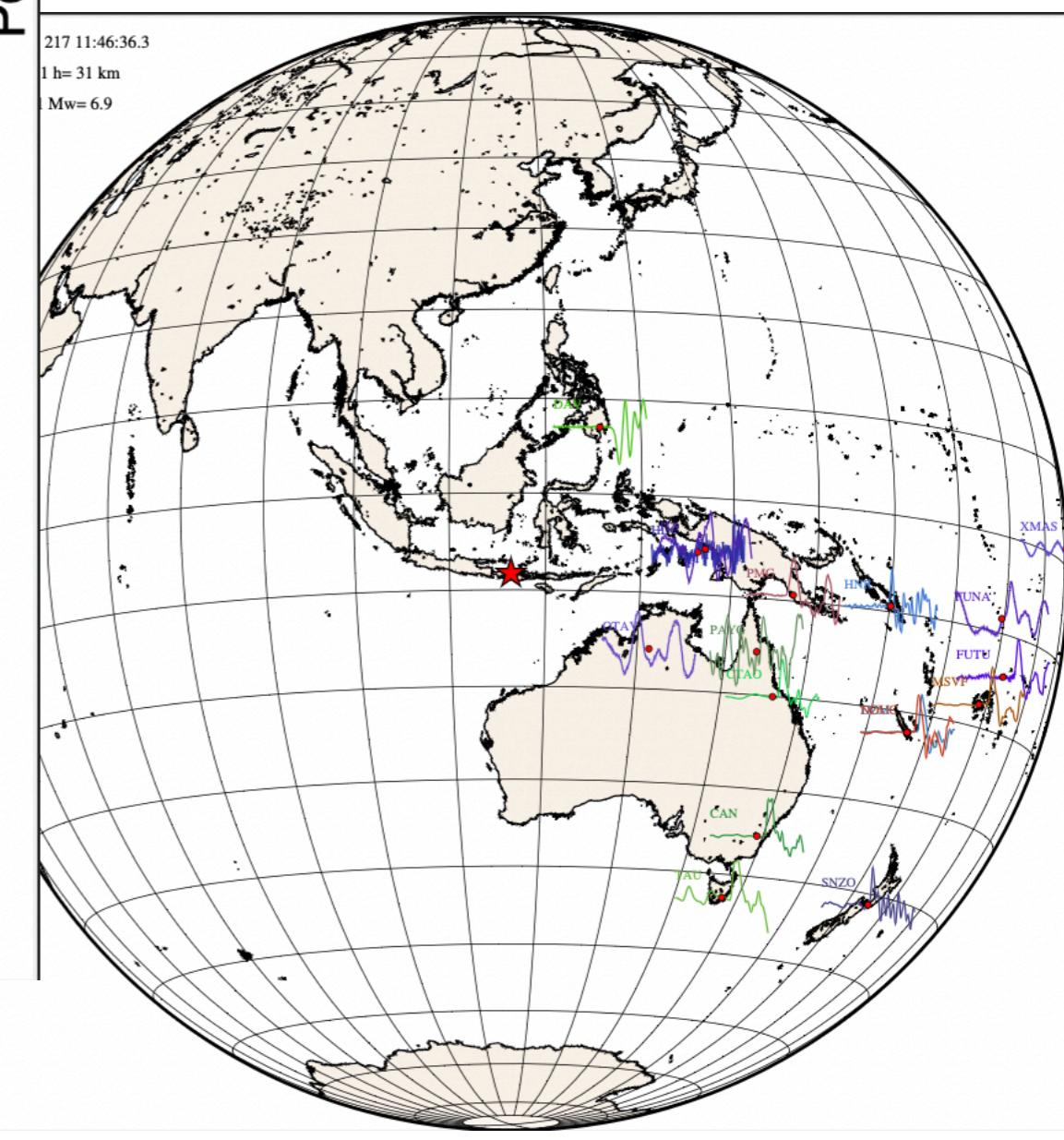
There are high frequencies everywhere, well before Predicted P

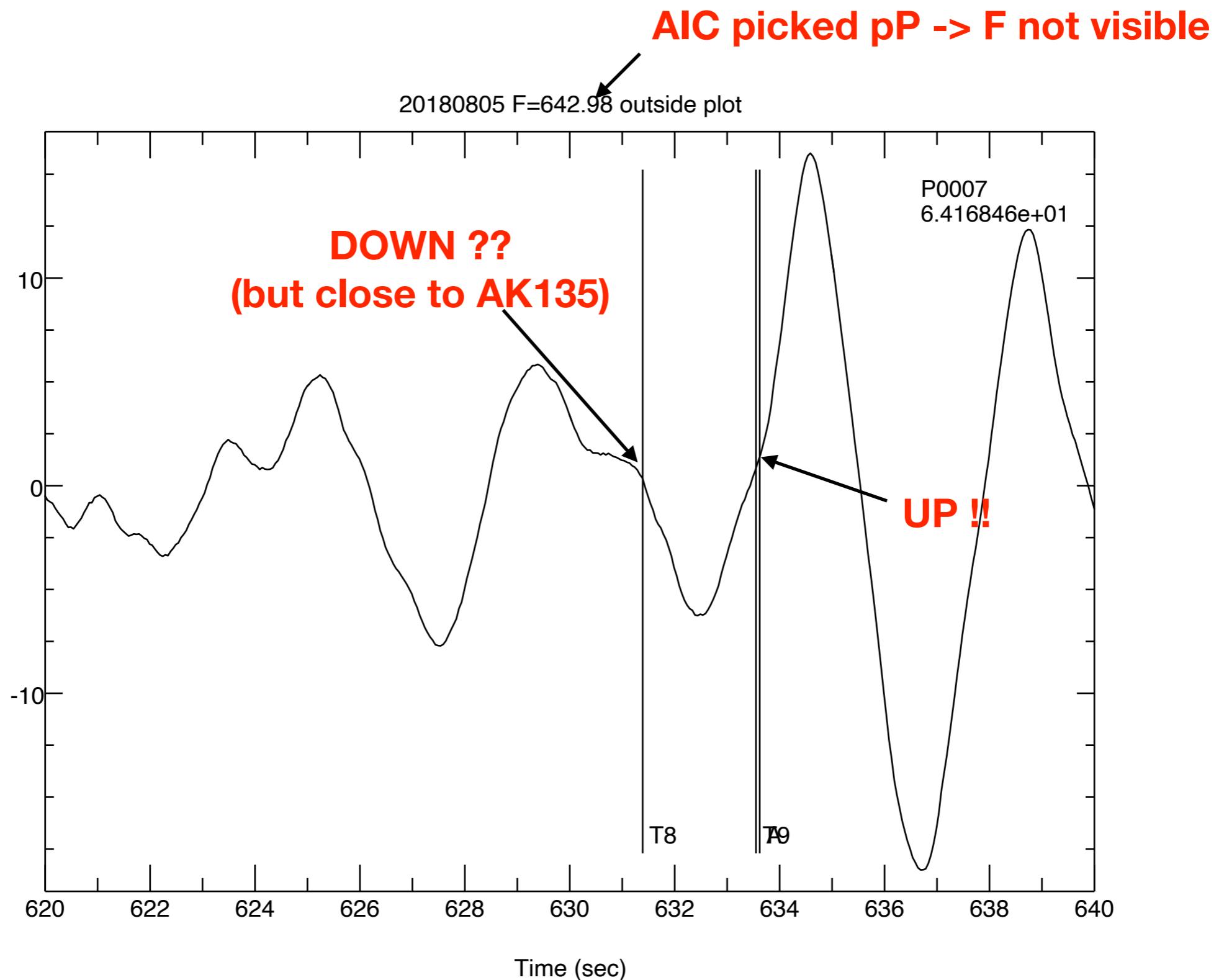


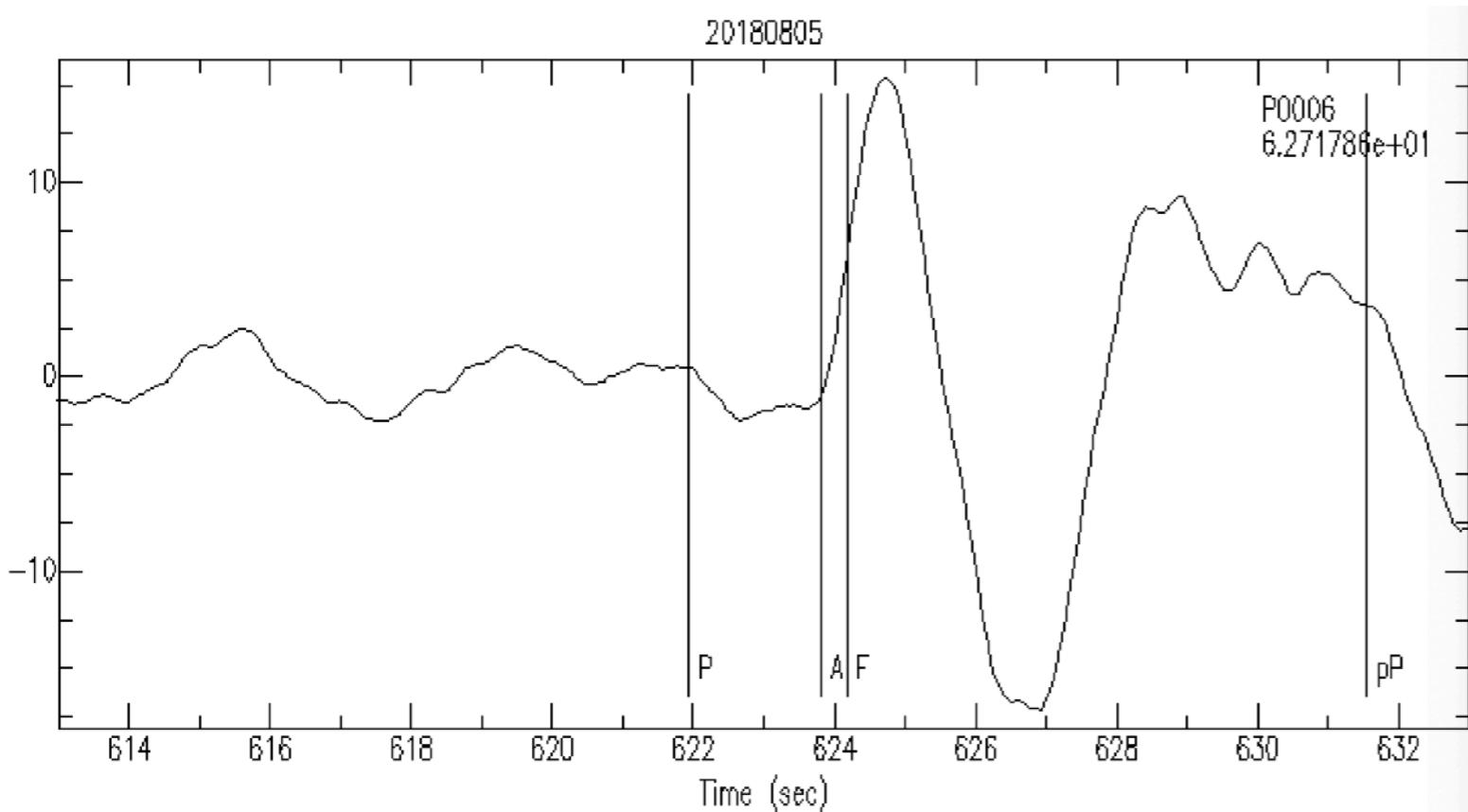
T9 picks onset UP, but it is weak
 T7 picks DOWN – not OK
A and T8 pick strong UP – OK
 F detects change in content, but is not on an onset



Except for DAV, all polarities are UP



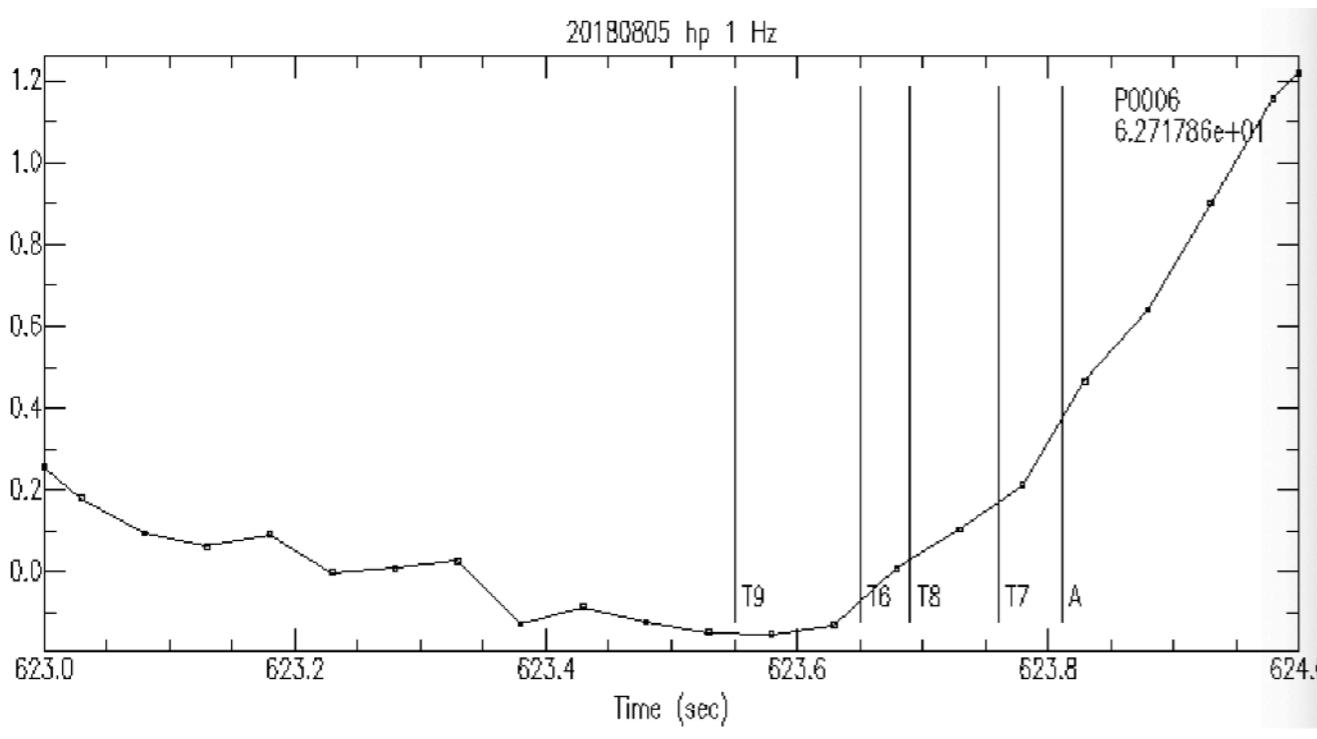




t6 = 623.65
t7 = 623.76
t8 = 623.69
t9 = 623.55
a = 623.81

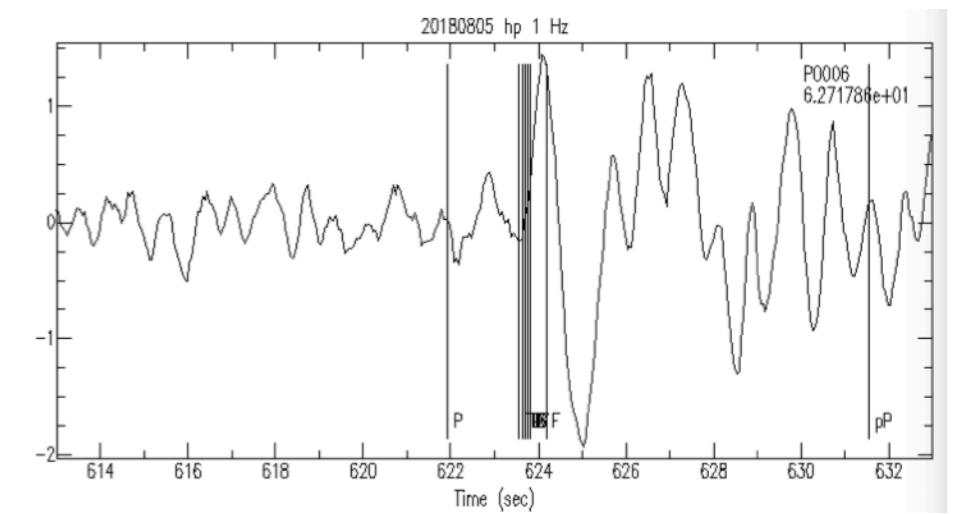
Difference T7-T9= 0.21s

High pass shows T6 is right

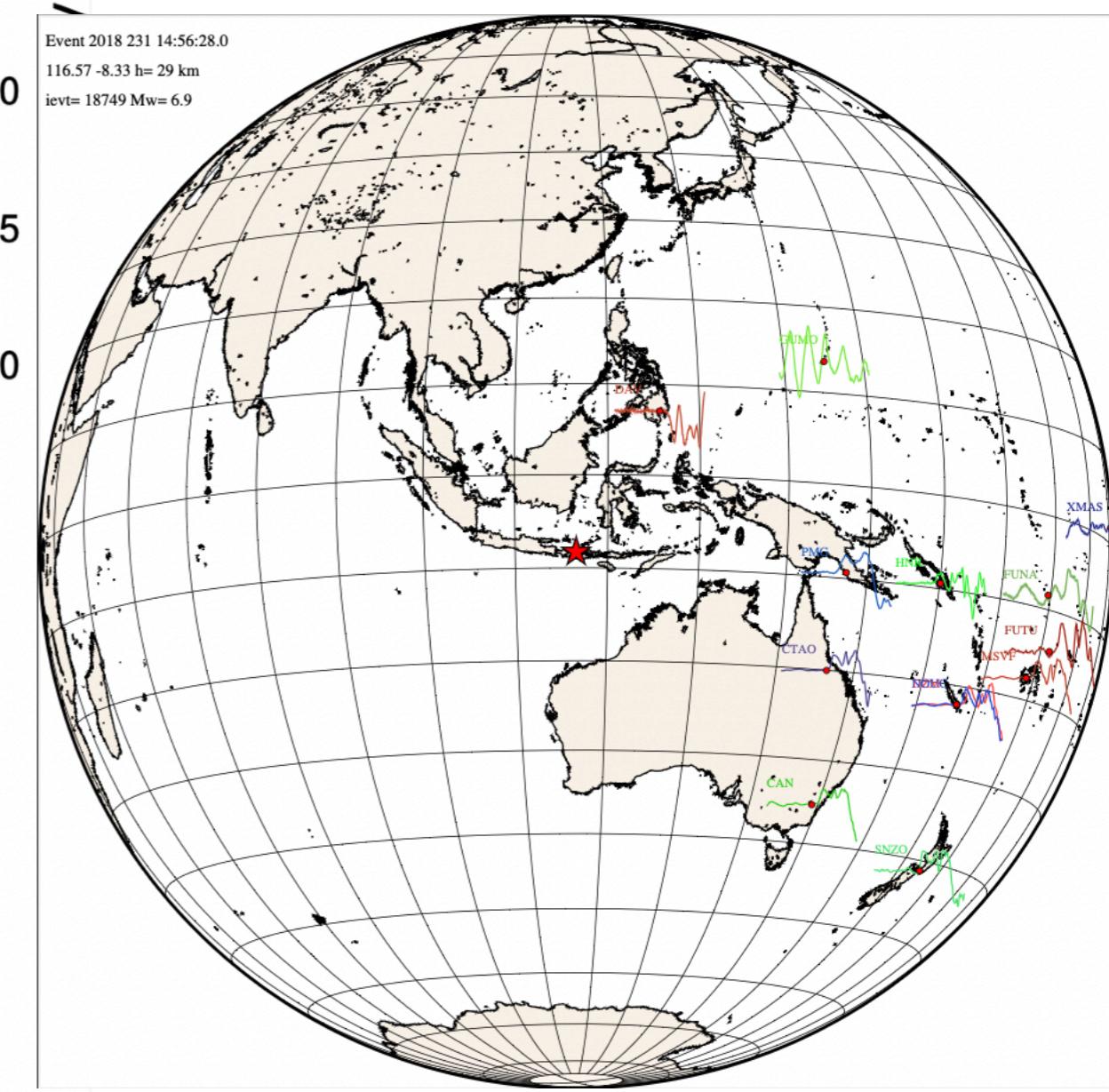
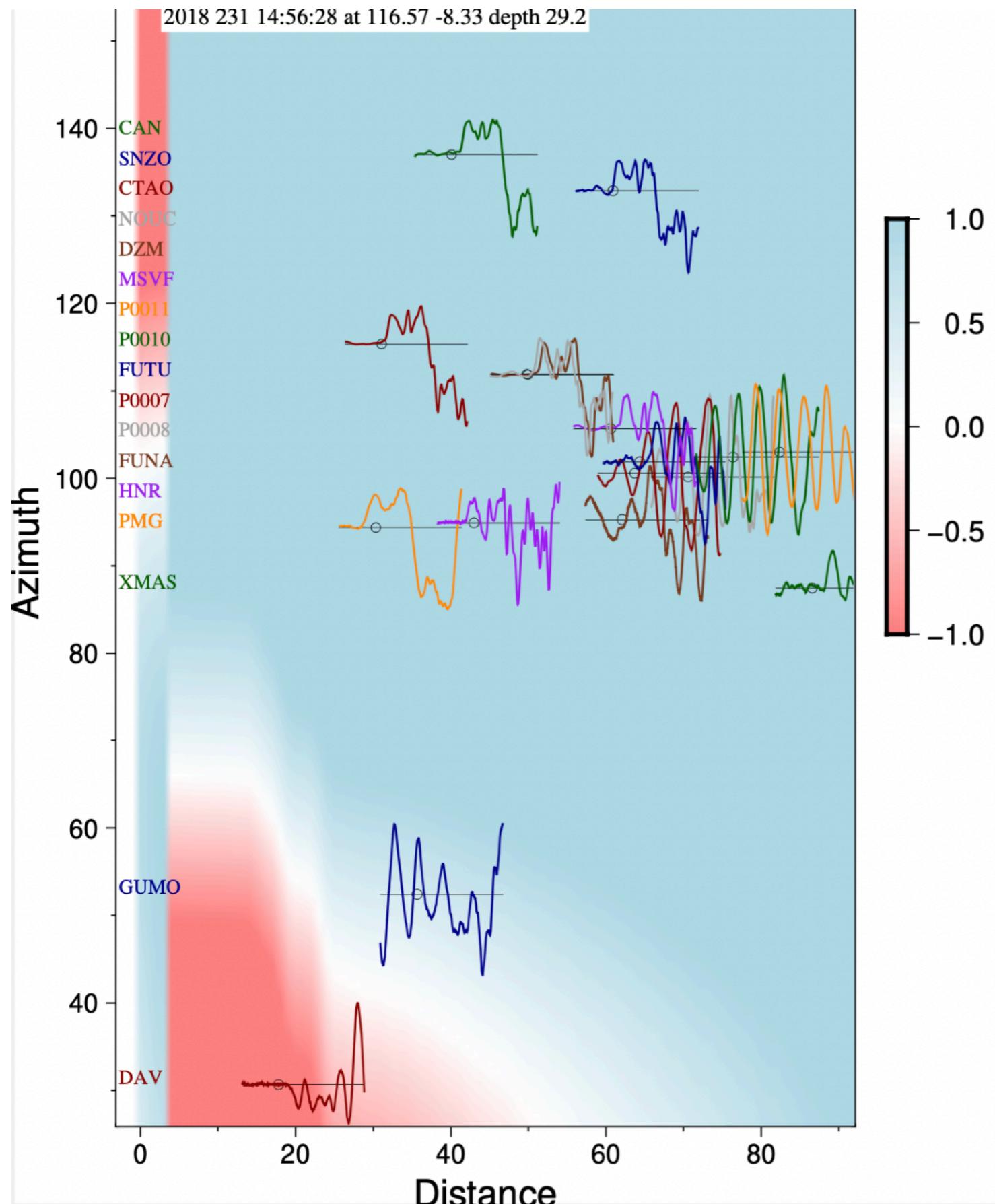


← →

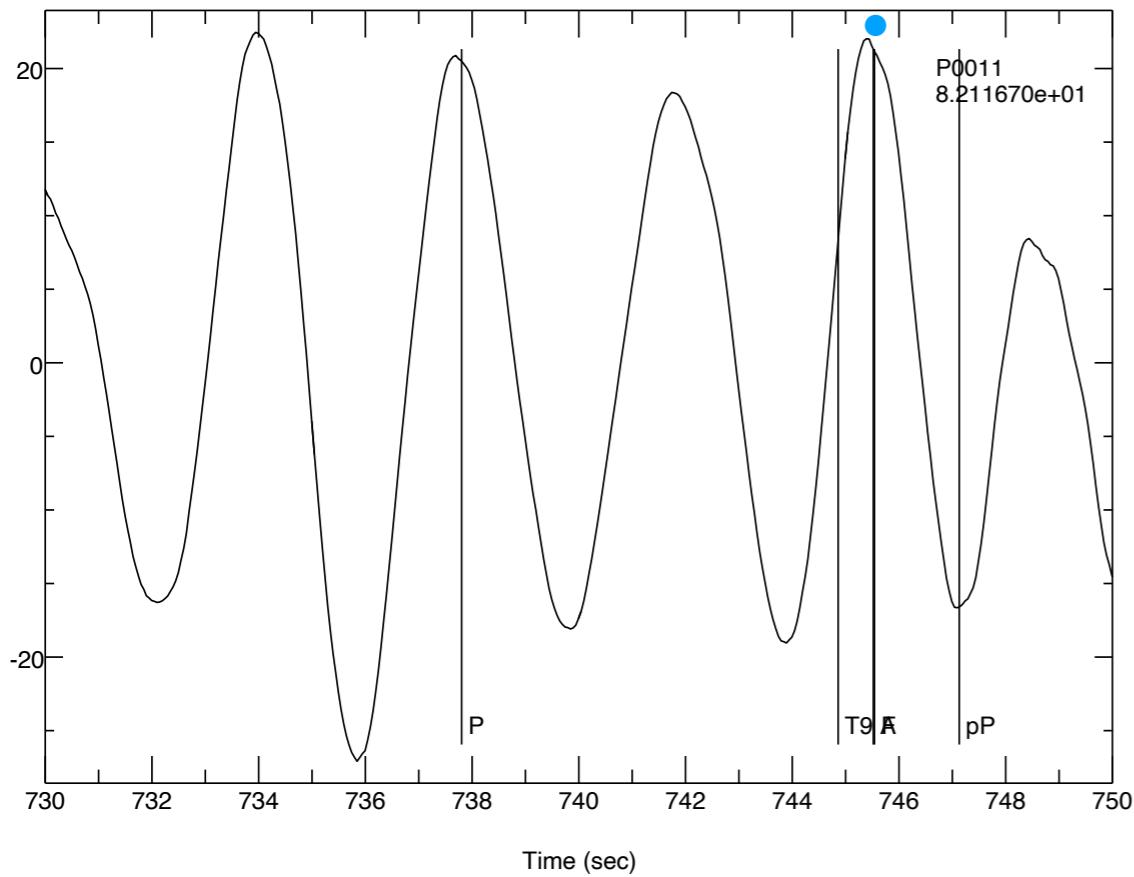
High pass 1 Hz, blow-up 1 second



Except for DAV, all polarities
are again UP

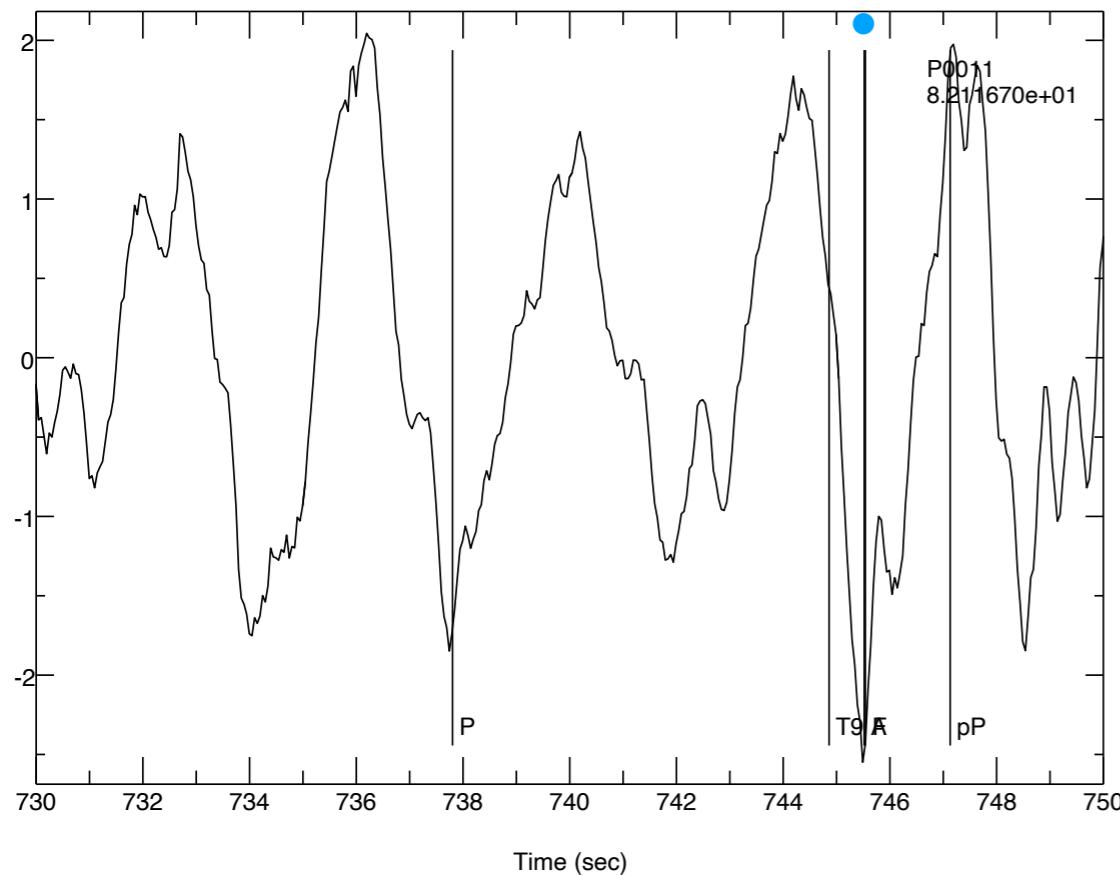


AUG 19 (231), 2018 in P11



A (and F) picks the tiny inflection on the unfiltered record of P0011, which is still DOWN, T9 is UP but no inflexion

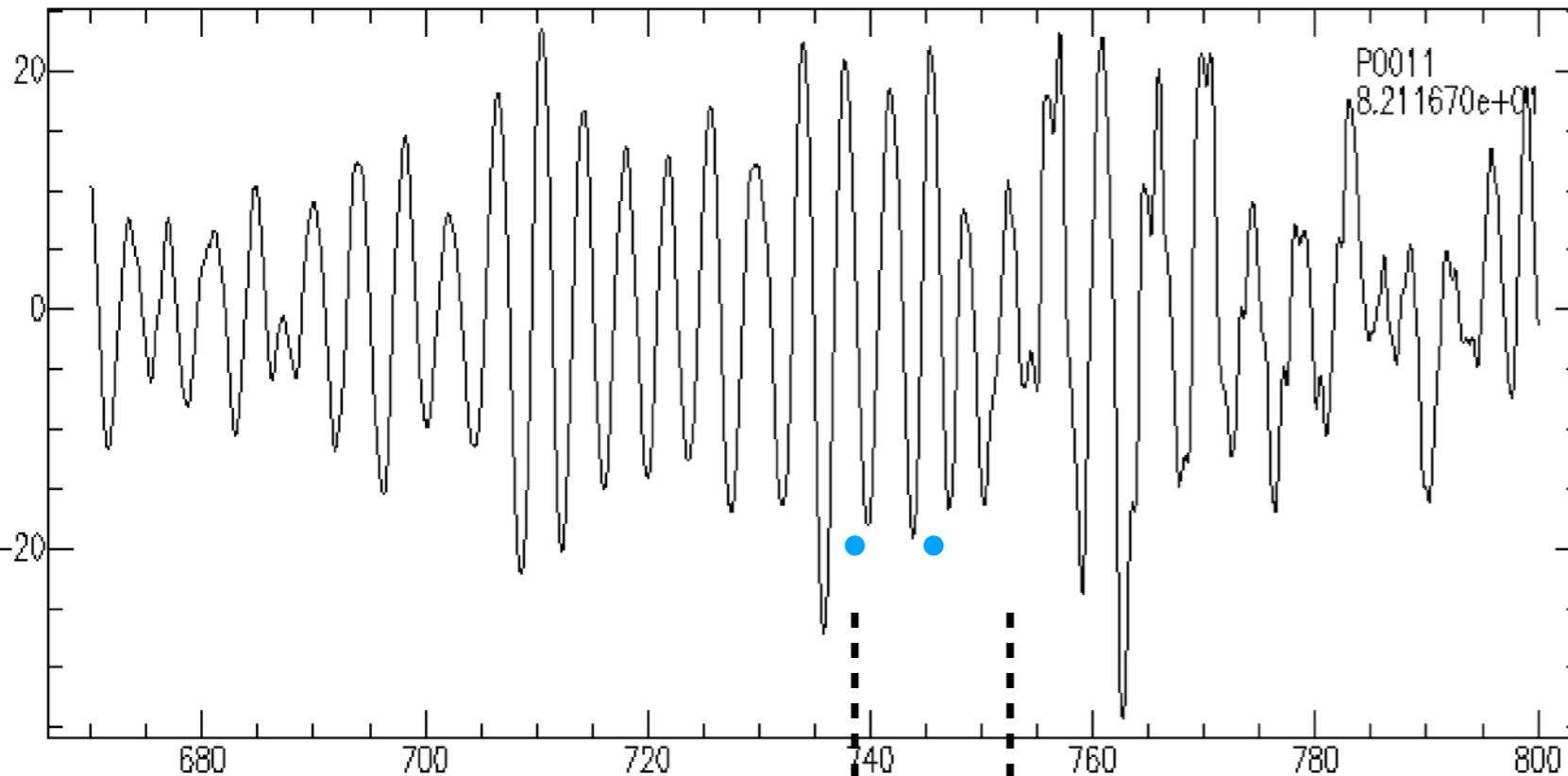
AUG 19 (231), 2018 in P11



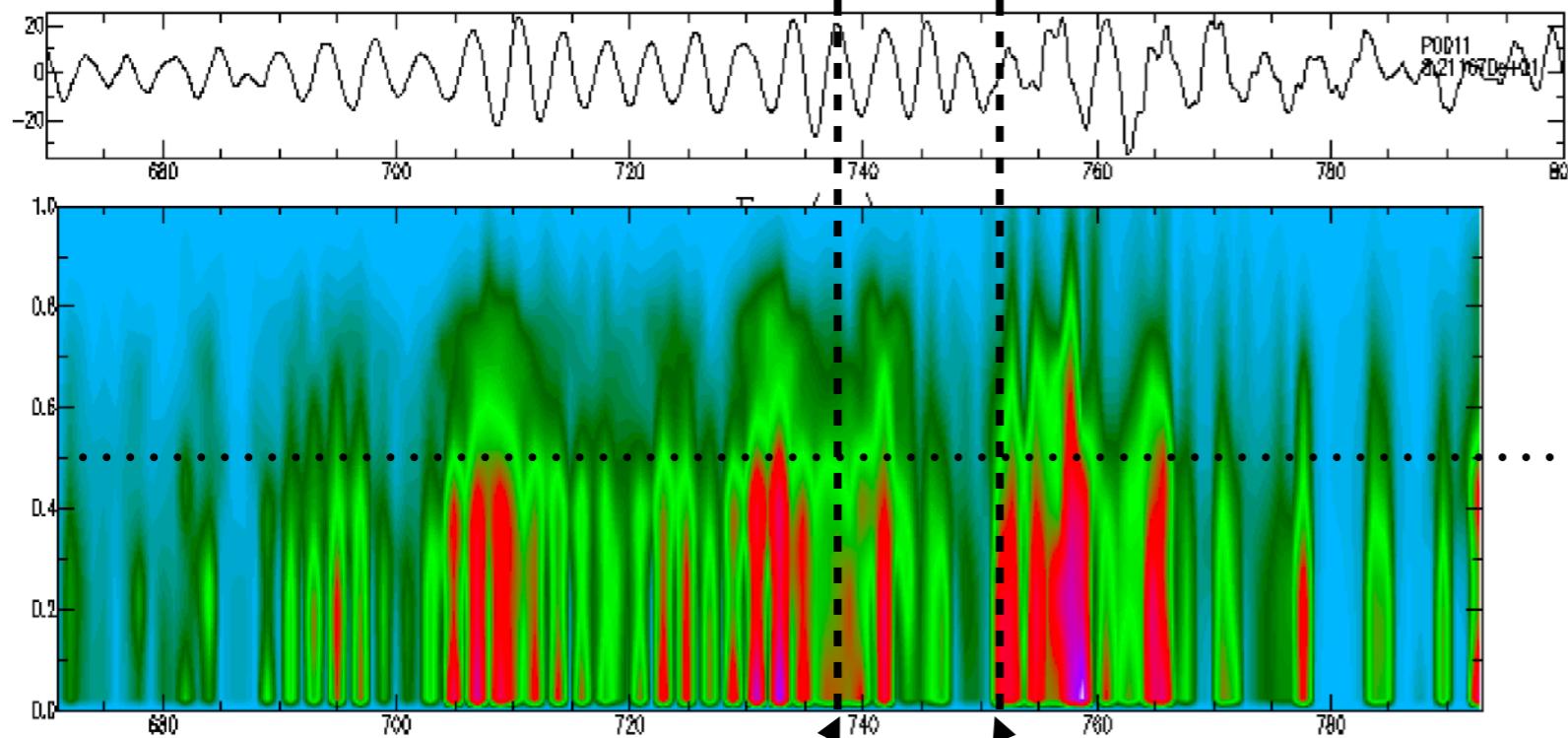
But on the filtered record (hp 1 Hz)
at A it is UP
However, there are more UP candidates,
so why pick 745.5 and not 737.8?

Is such large delay acceptable?

*Only if low-noise stations show it also
(it may then be a foreshock issue)*



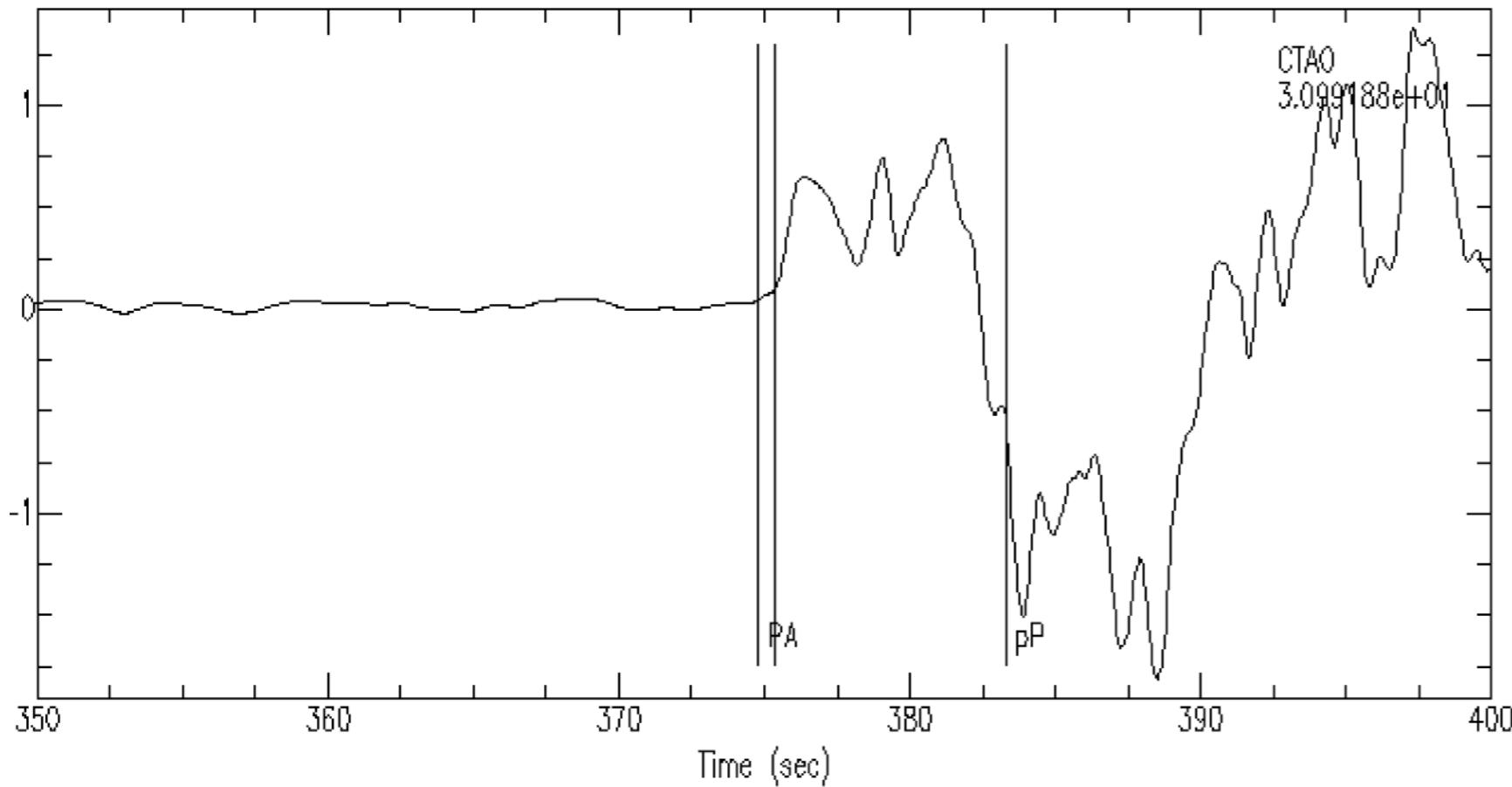
so why pick 745.5 and not
737.8?
Another way of looking at it:
spectrogram



AK135 prediction

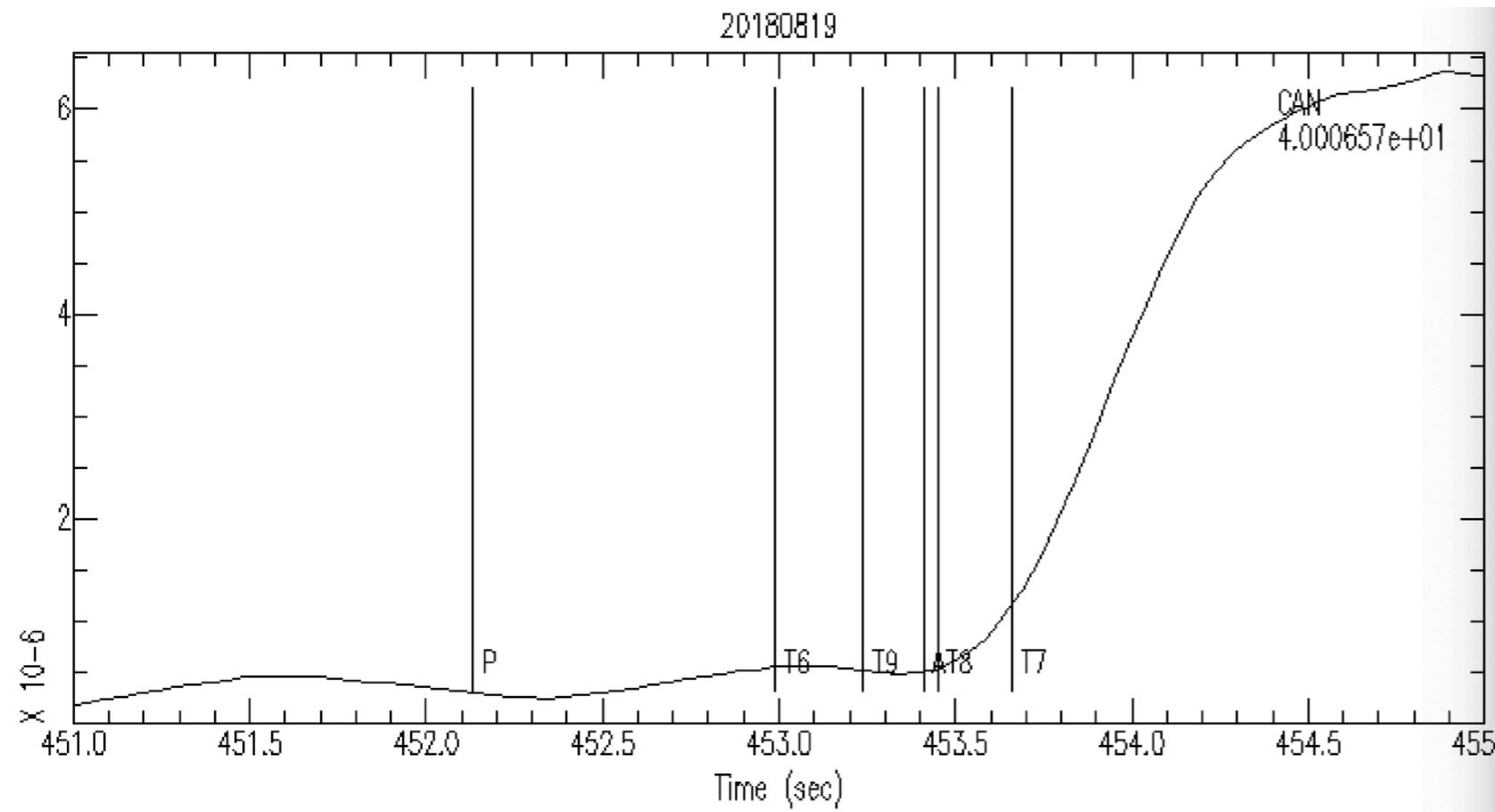
High amplitudes arrive

Several peaks > 0.5 Hz,
none seems special



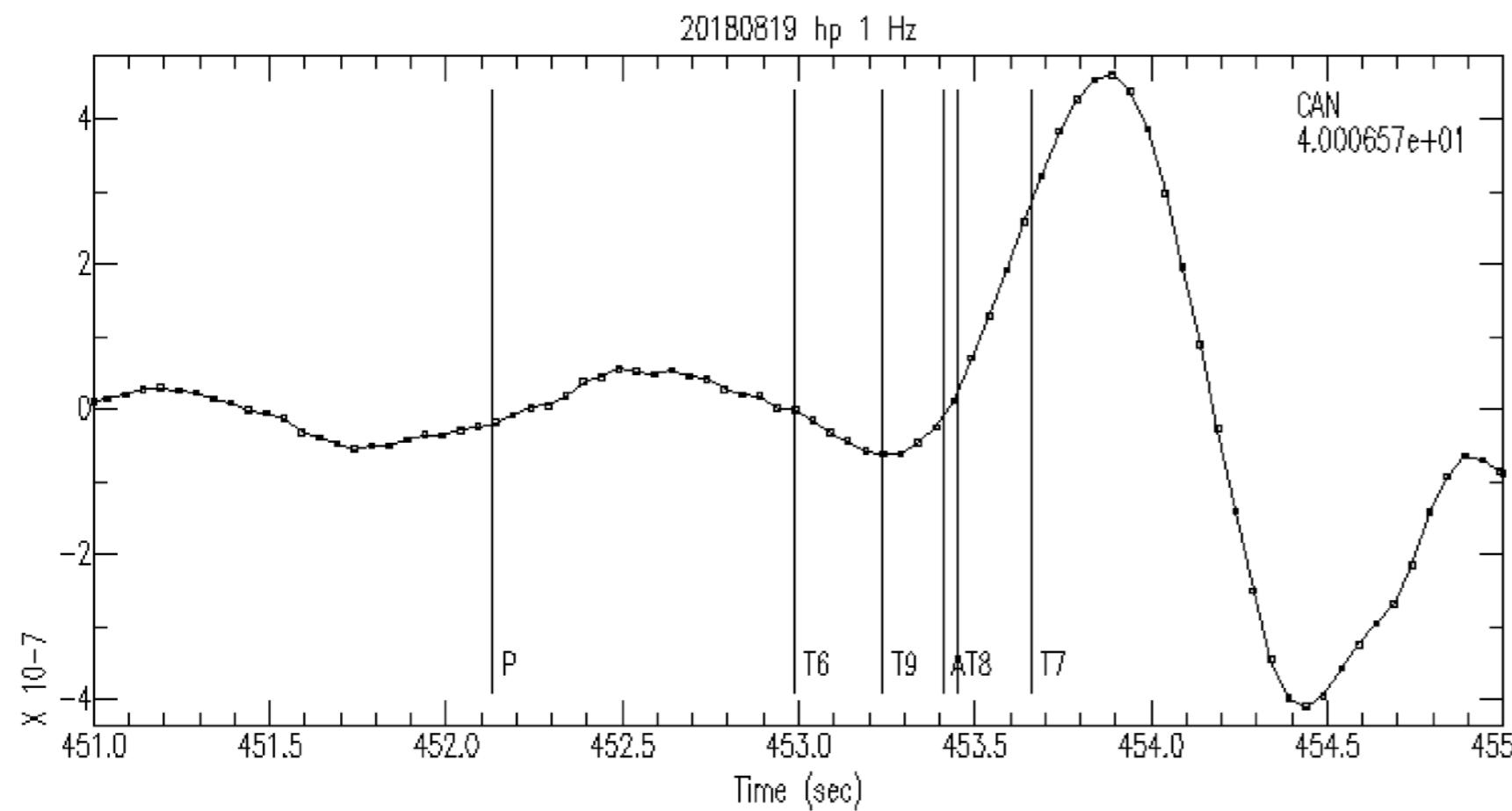
CTAO arrives on time -> large delay not acceptable

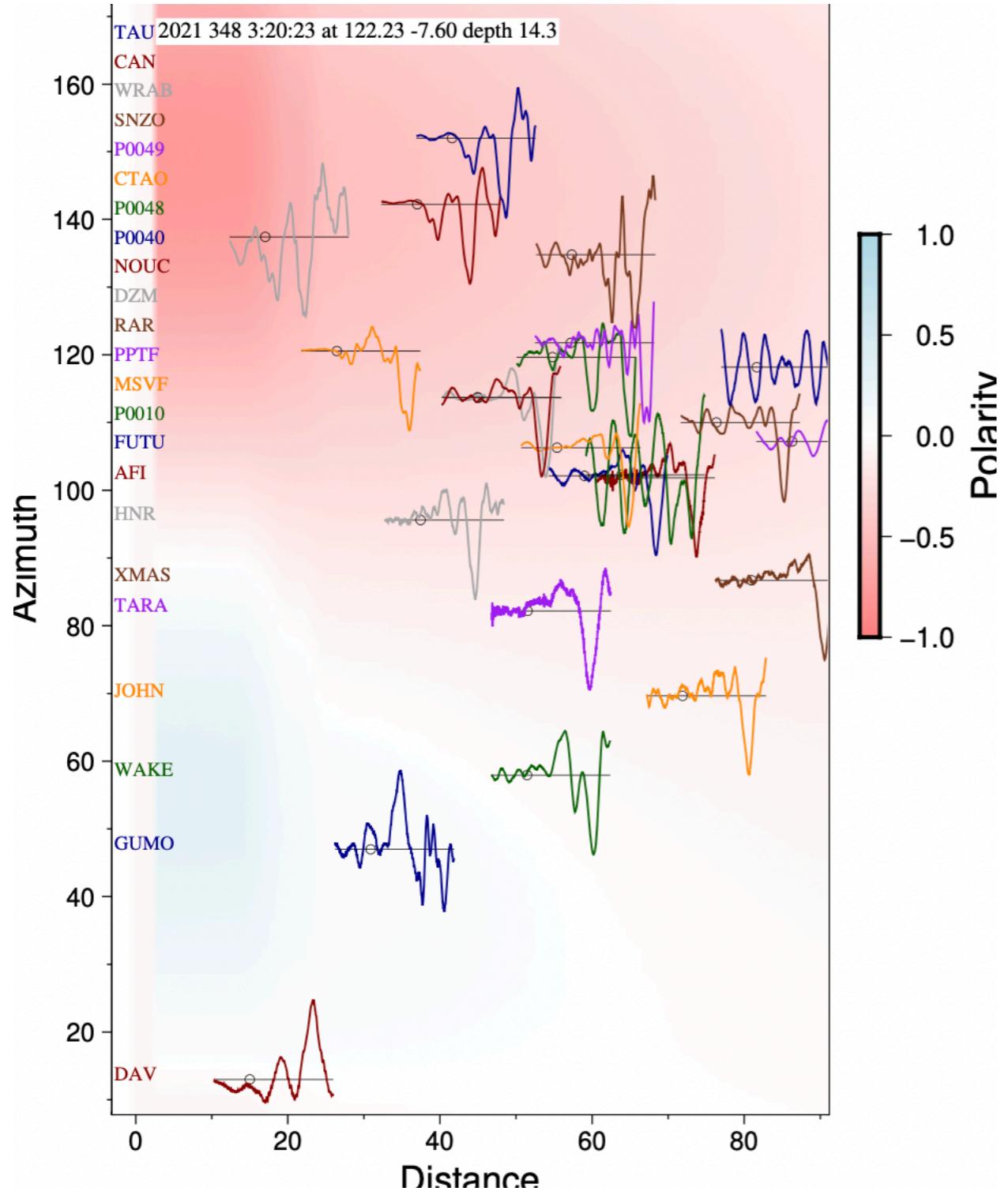
Conclusion: reject P0011



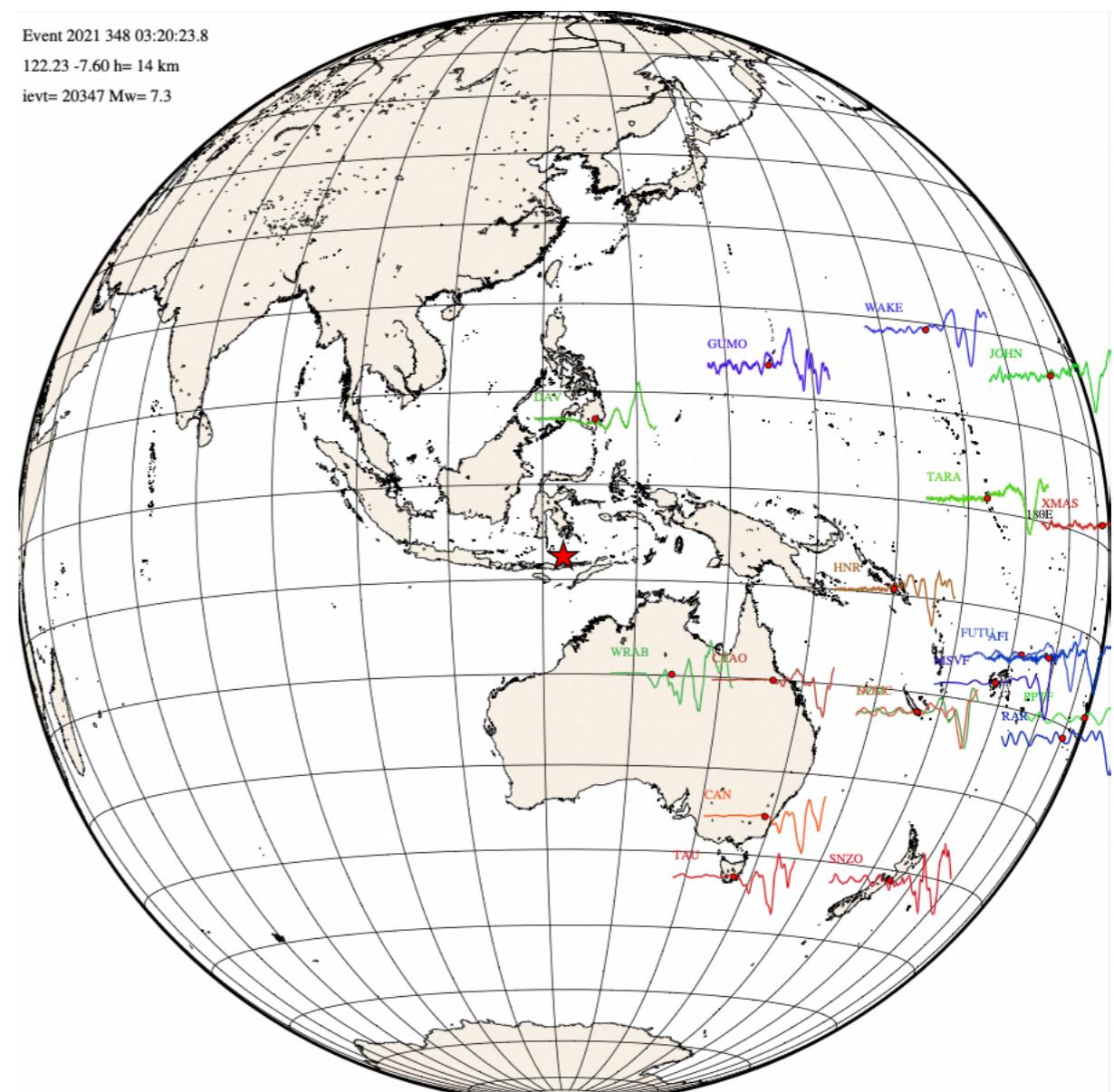
GSN stations on land have low noise, as here in CAN

Here the high pass shows onset is between A: 453.41 and T9: 453.24

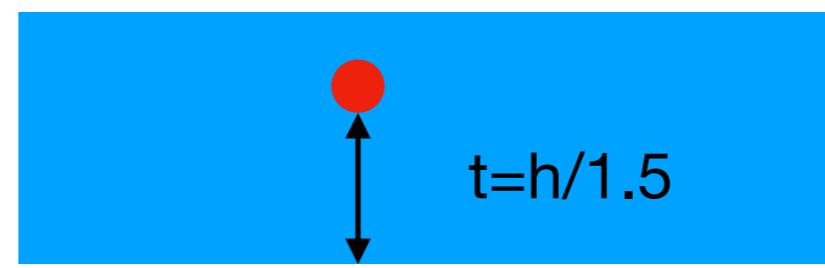
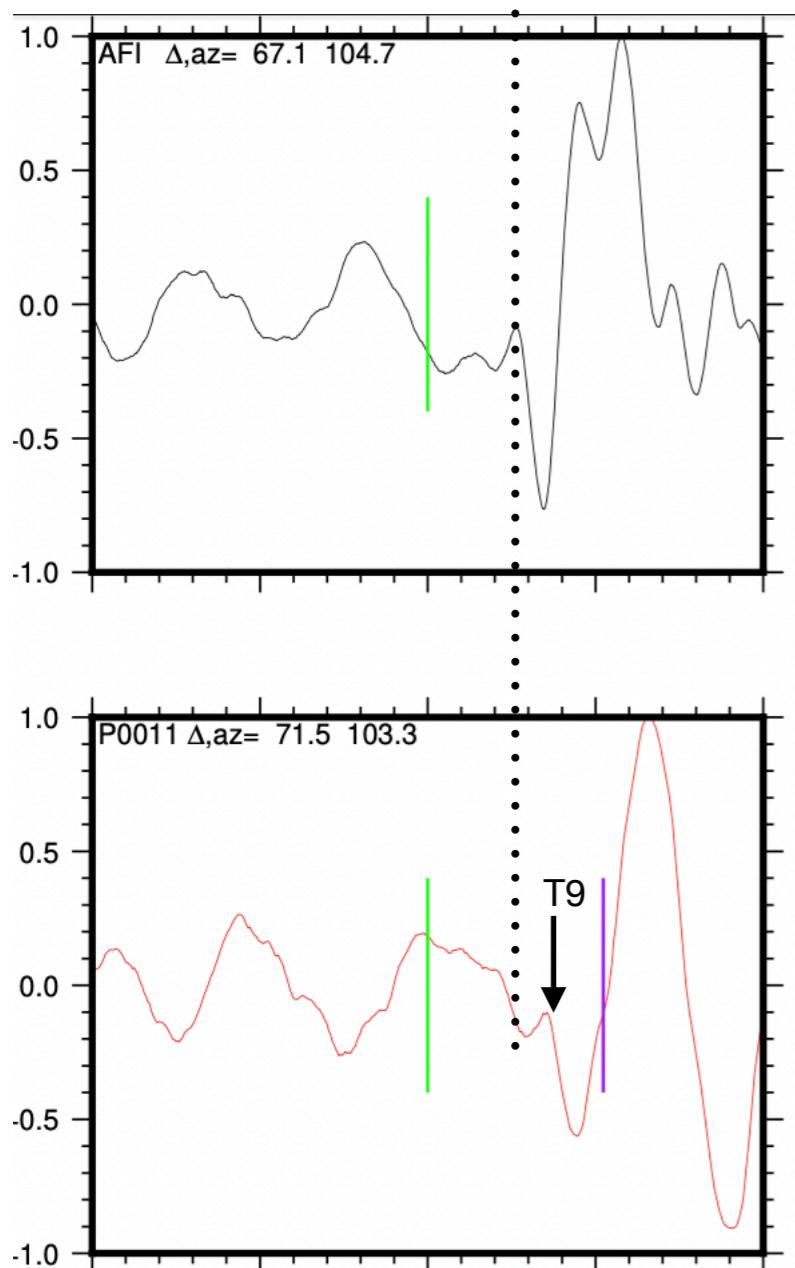




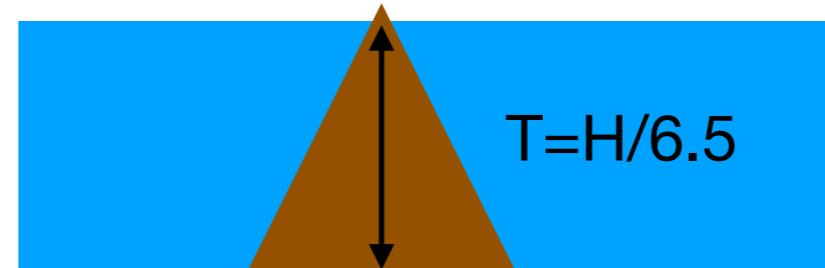
2021 Dec 14: polarity uncertain, especially for azimuth < 100
Many stations near nodal plane.



Comparison with nearby AFI
confirms T9 in P0011, where
we expect a ‘Mermaid delay’



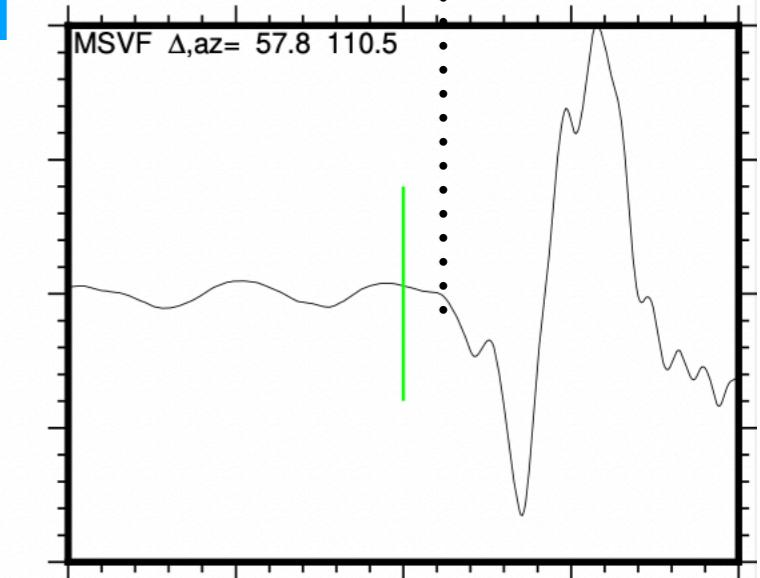
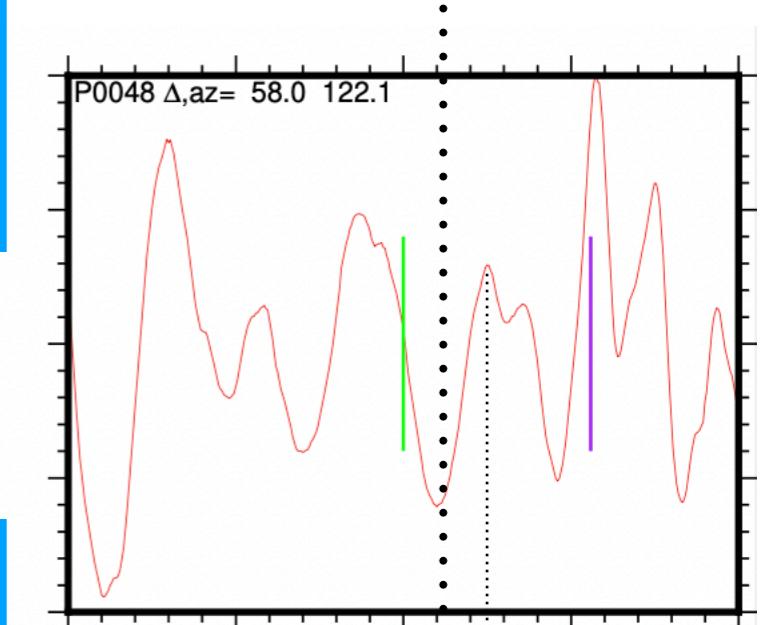
Mermaid

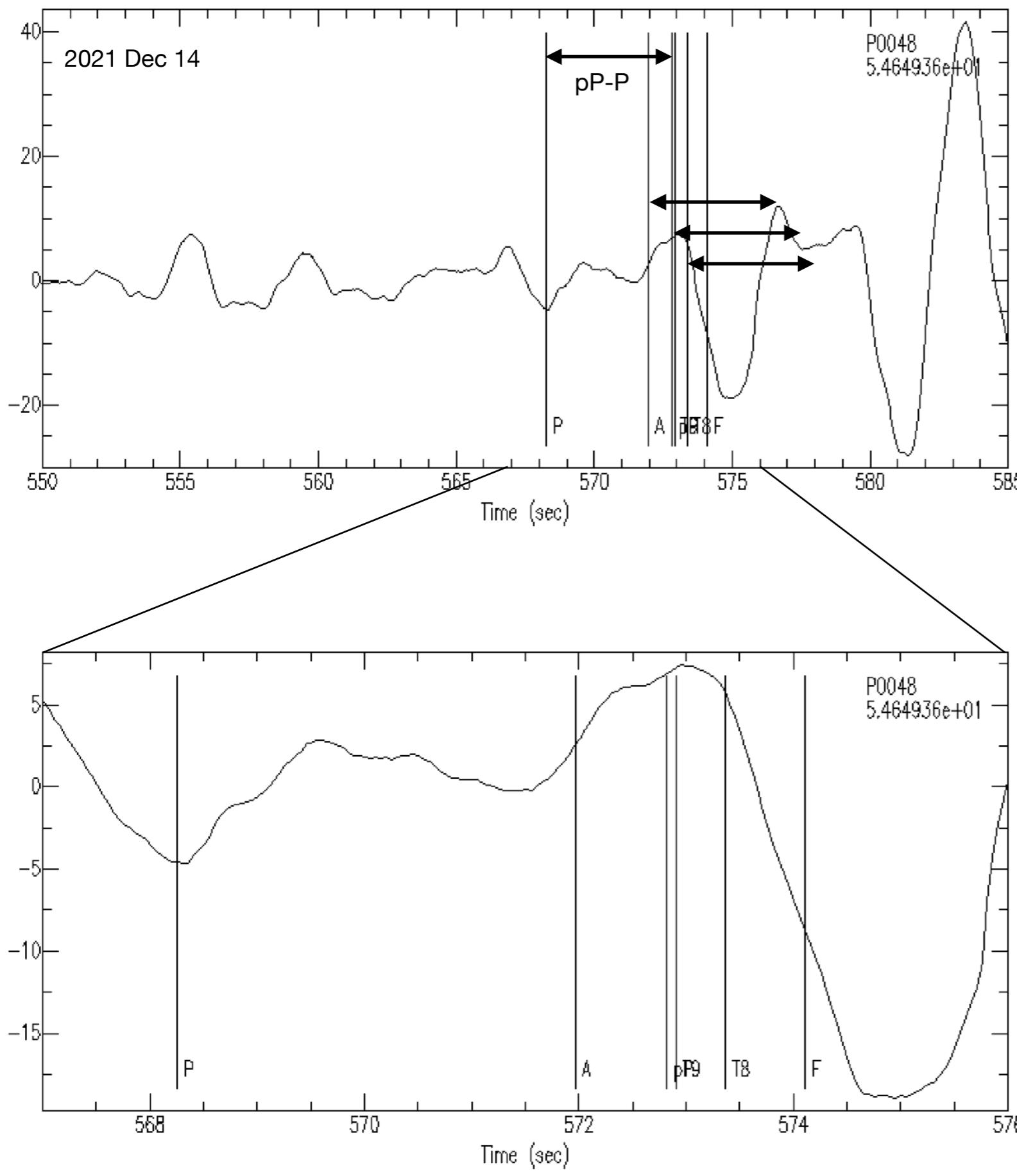


Island station

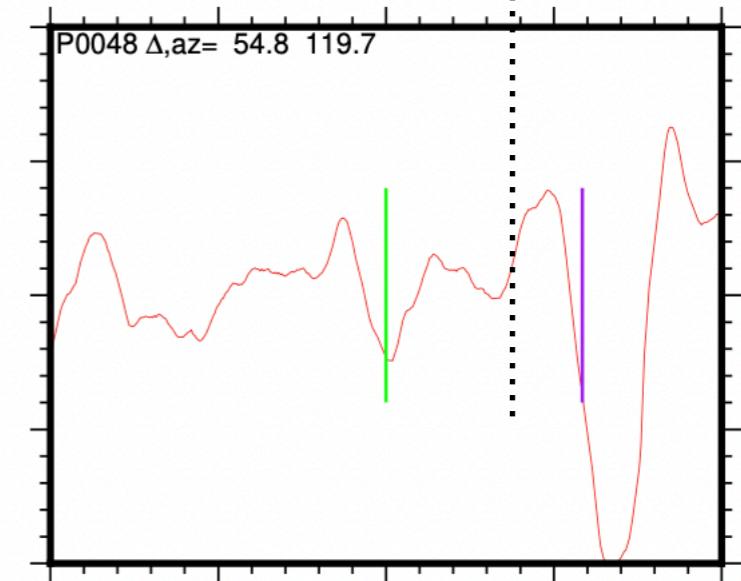
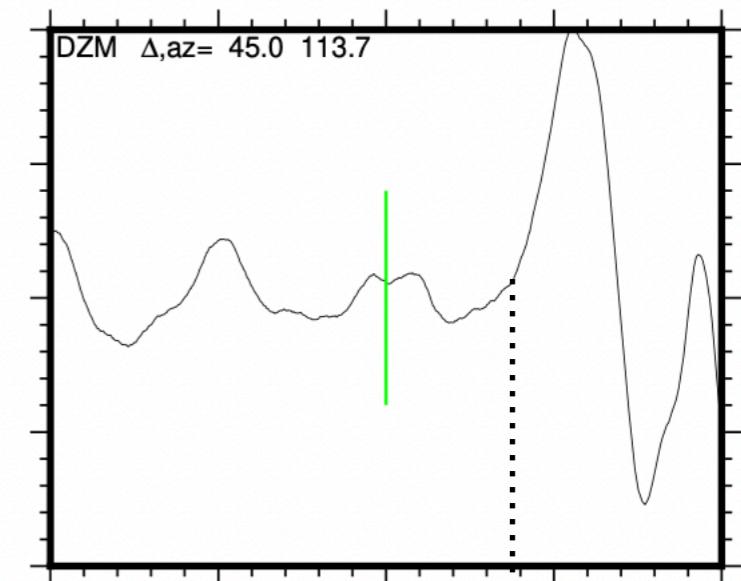
If $h=3.5\text{km}$, $H=5\text{km}$ then
 $T=0.8\text{s}$, $t=2.3\text{s}$

But what about P0048?
Can we trust the predicted
polarity (DOWN)?

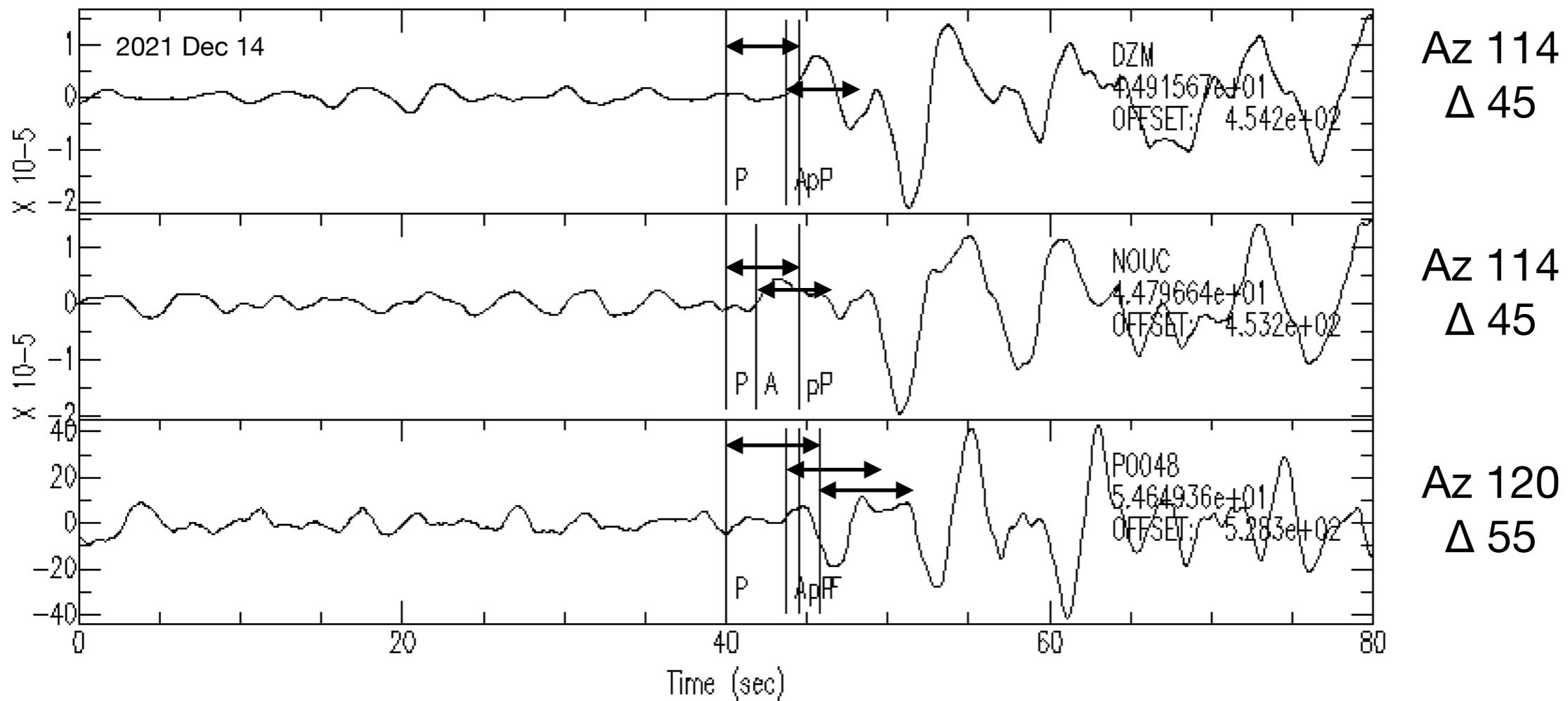




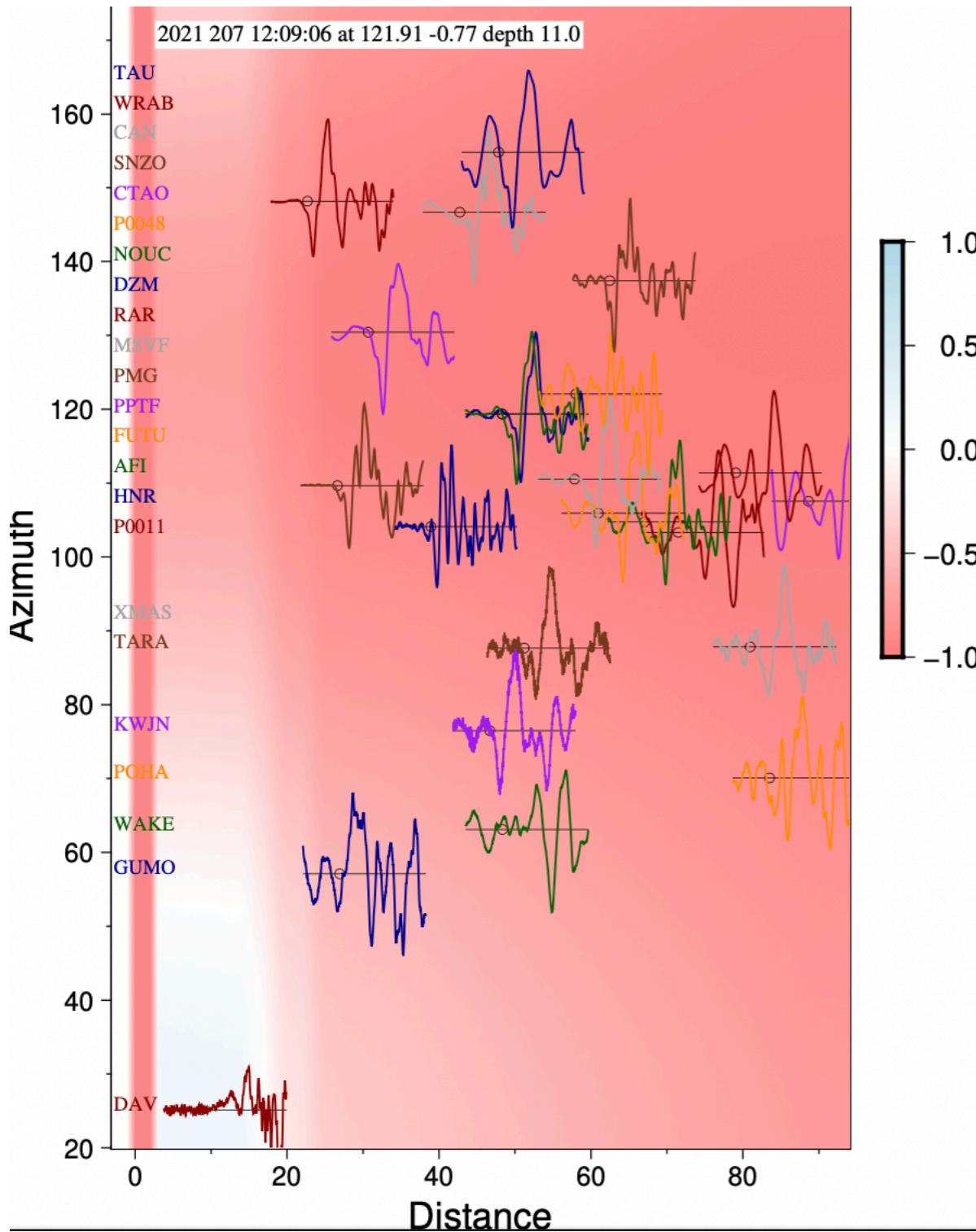
Comparison with DZM shows UP is probably wanted, and delay large, unless this is pP....



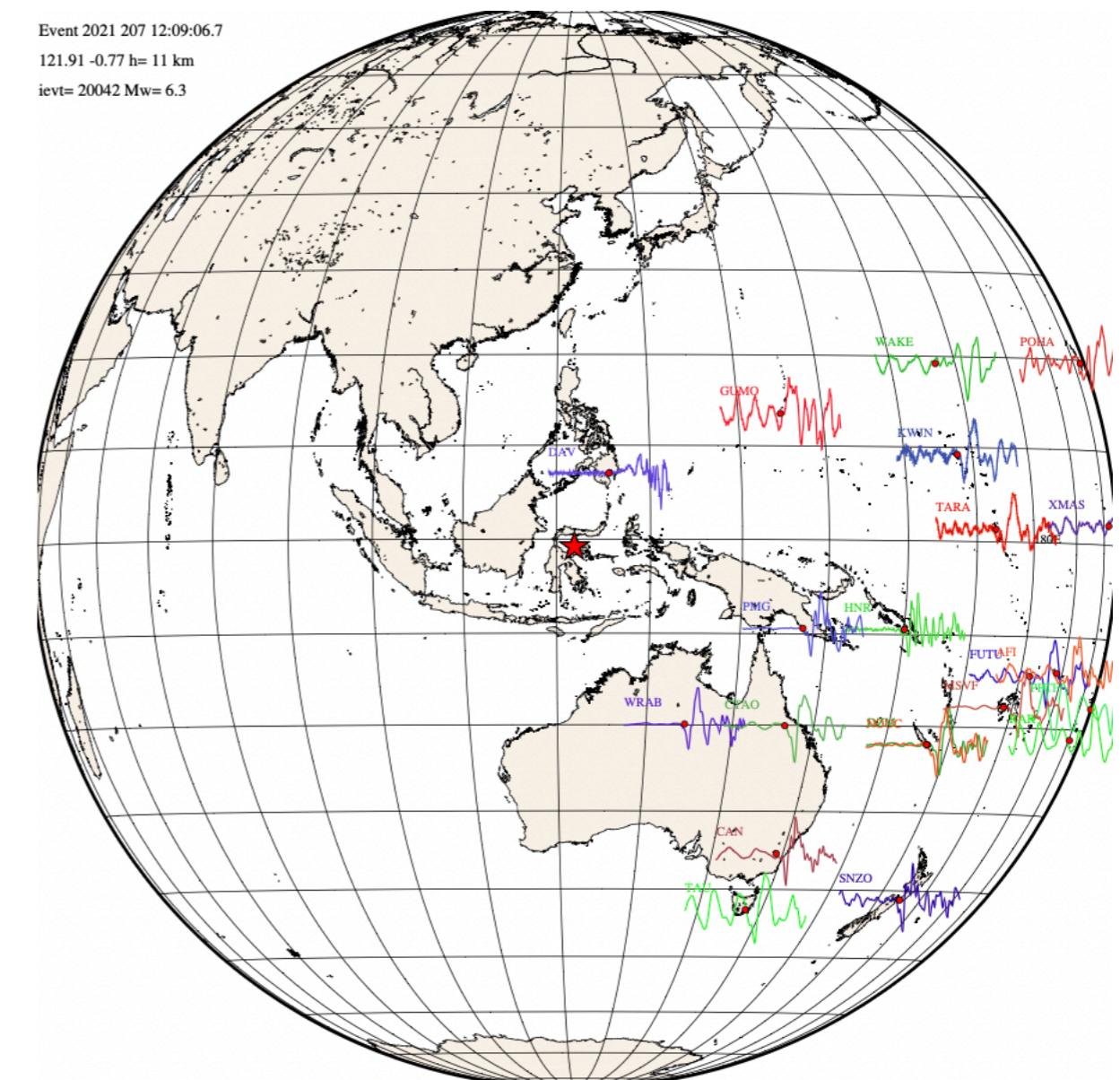
DZM, NOUC and P0048 aligned on predicted P



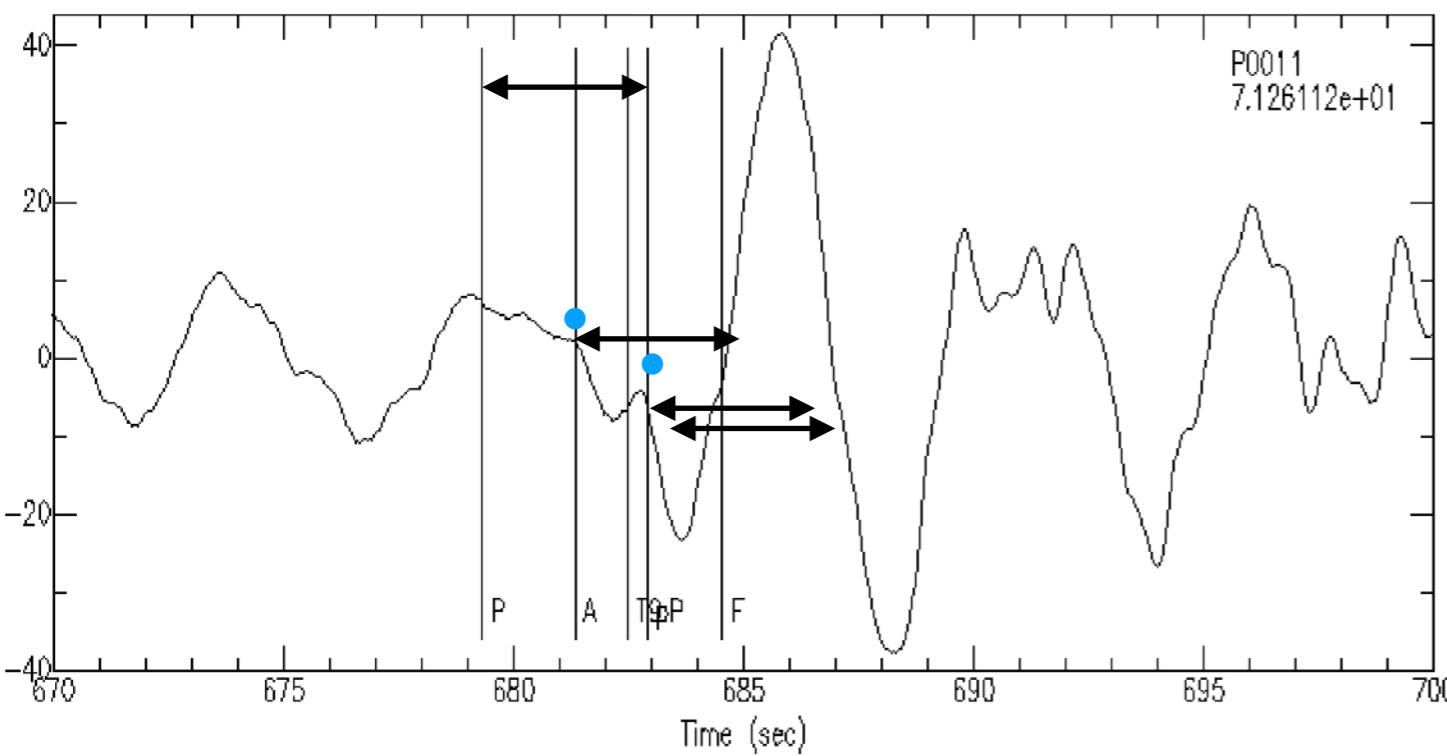
F in P0048 (574.11) seems to have the best fit pP-P
Manual picks were 571.97, 572.91 and 573.37 — all earlier



Predictions are DOWN but DAV, GUMO, WAKE seem UP -> take care if az<70 and watch out for pP near nodal plane



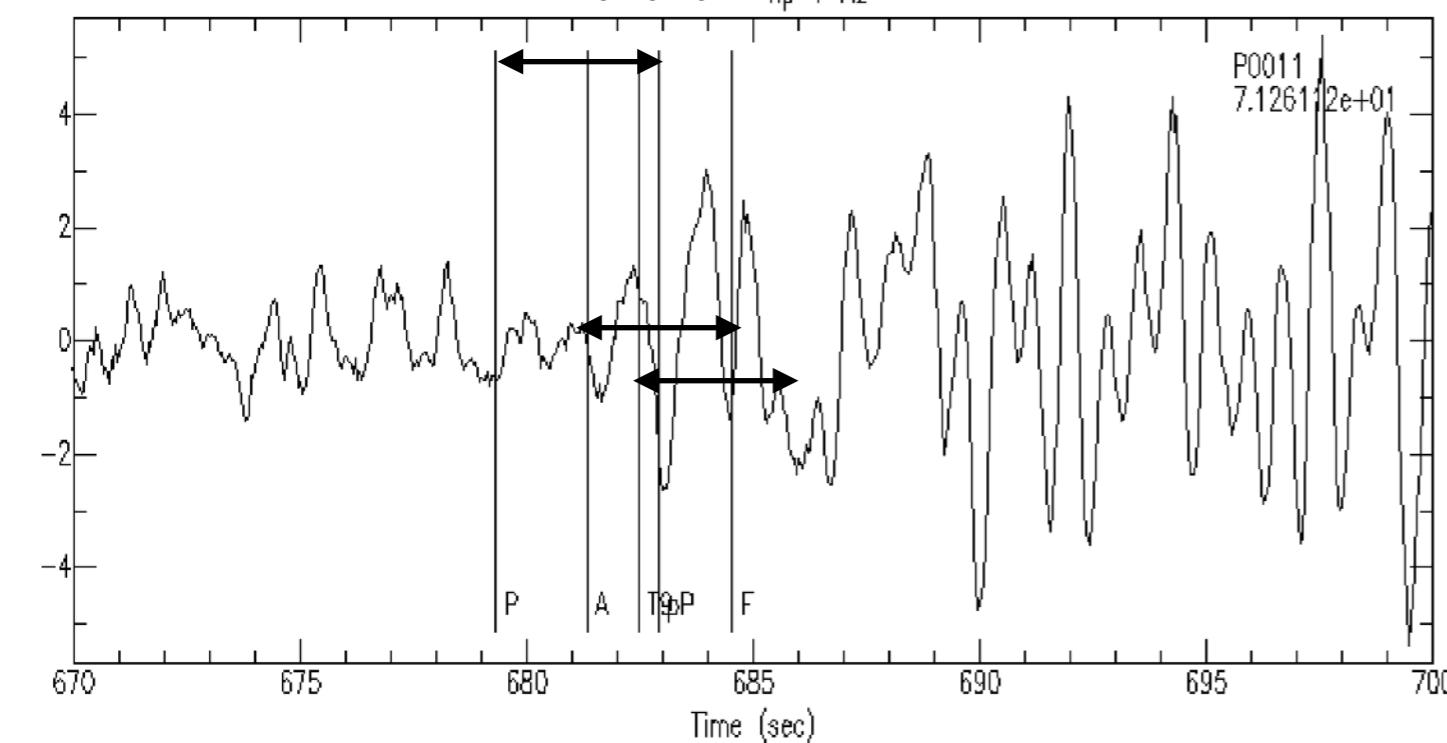
20210726



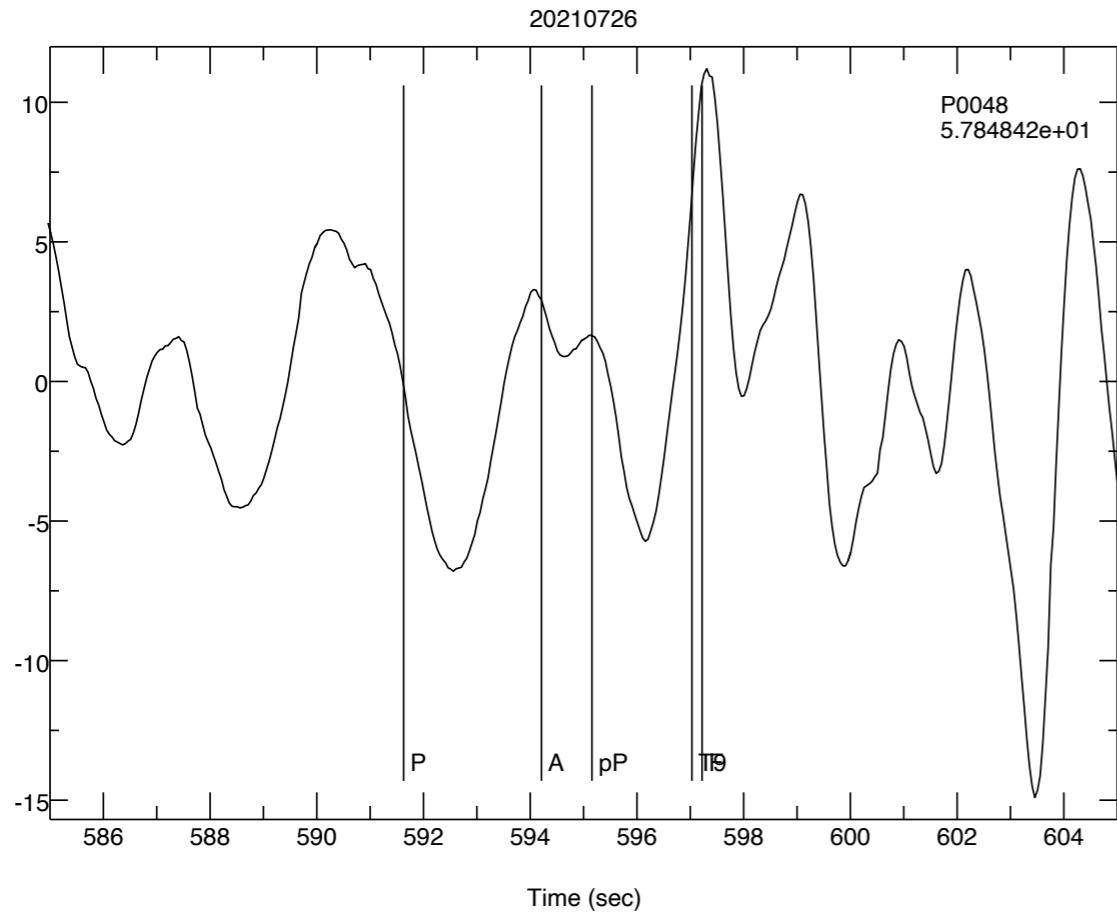
$$\longleftrightarrow = pP - P$$

On the unfiltered record A and T9 are both DOWN, but no pP seems to follow either A or T9

20210726 · hp 1 Hz

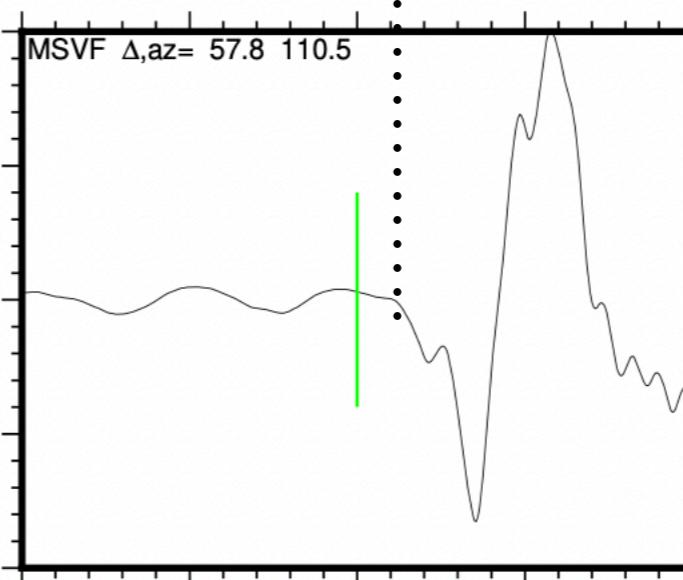
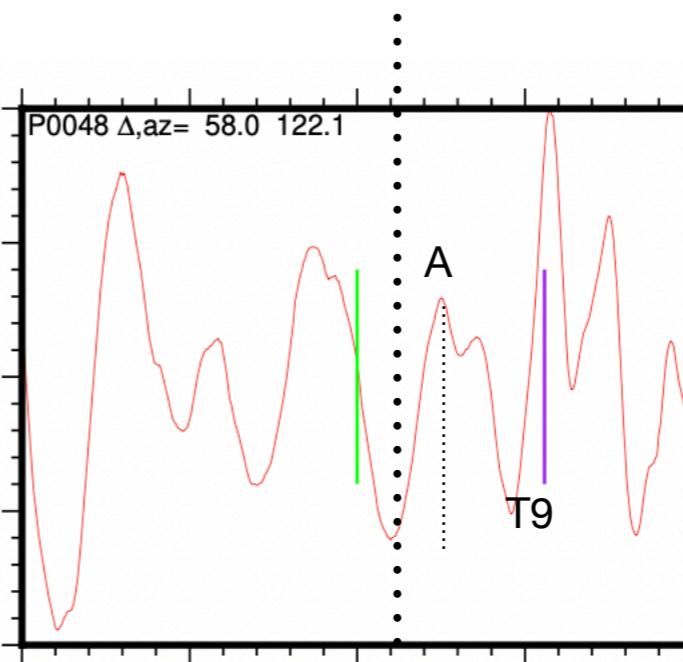


On the filtered record pP seems to follow T9, which is also larger amplitude -> T9 is the preferred onset (but quite uncertain, so we need a check with AFI)

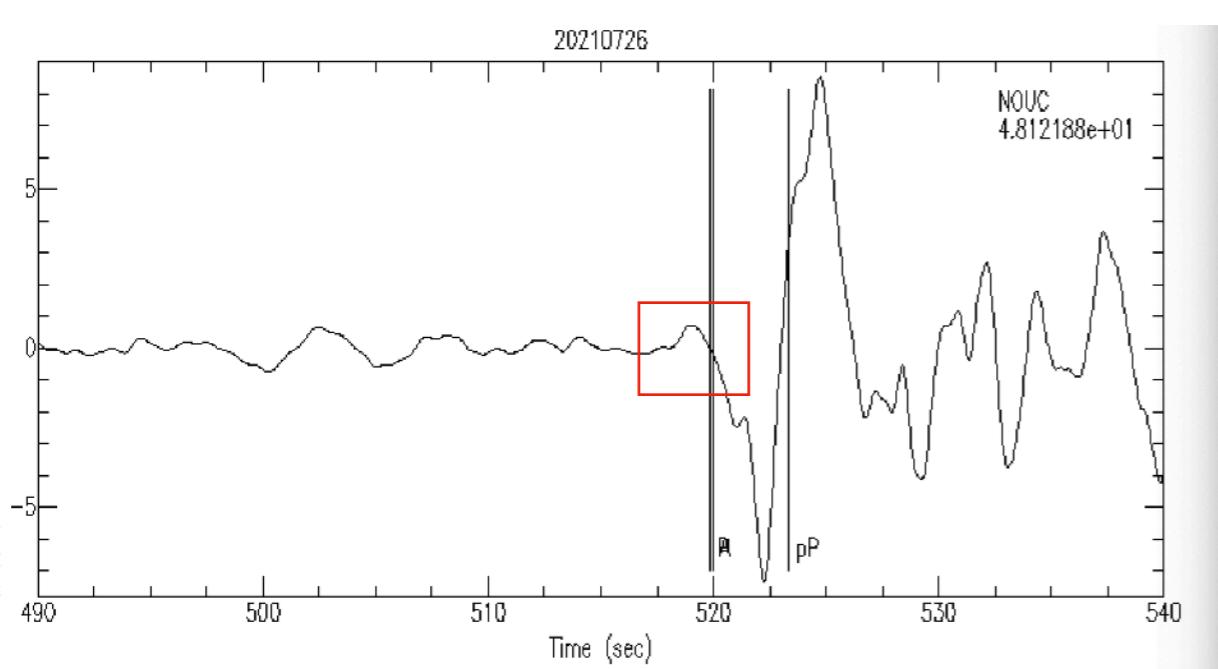


$A=594.21$, $T9=597.03$, $F=597.22$
Who is right? Only A is DOWN

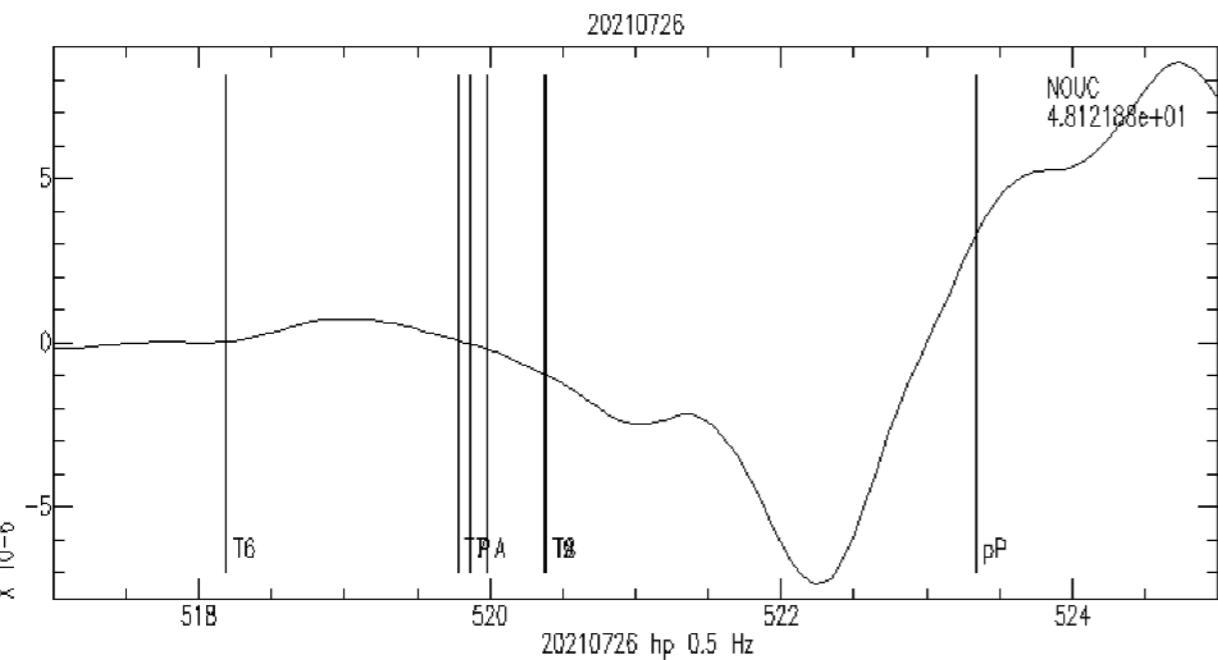
AK135 predicts 591.63 for P and
595.16 for pP



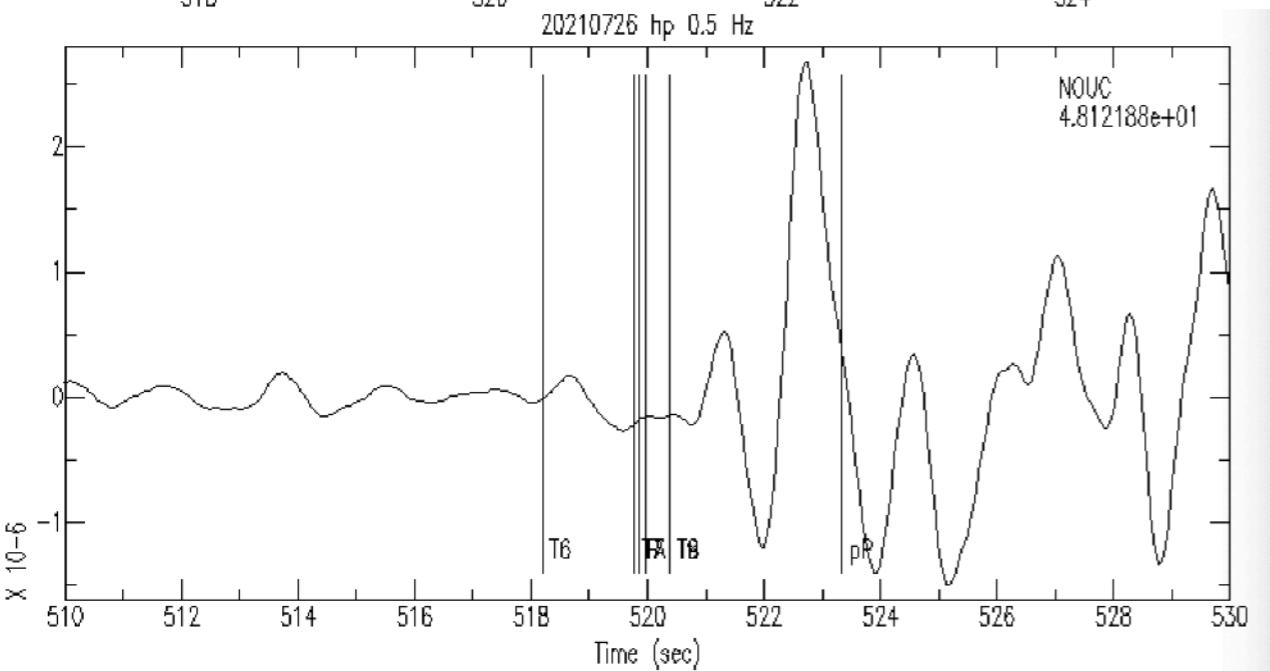
comparison with MSVF
shows A is (*probably*) the
correct pick.



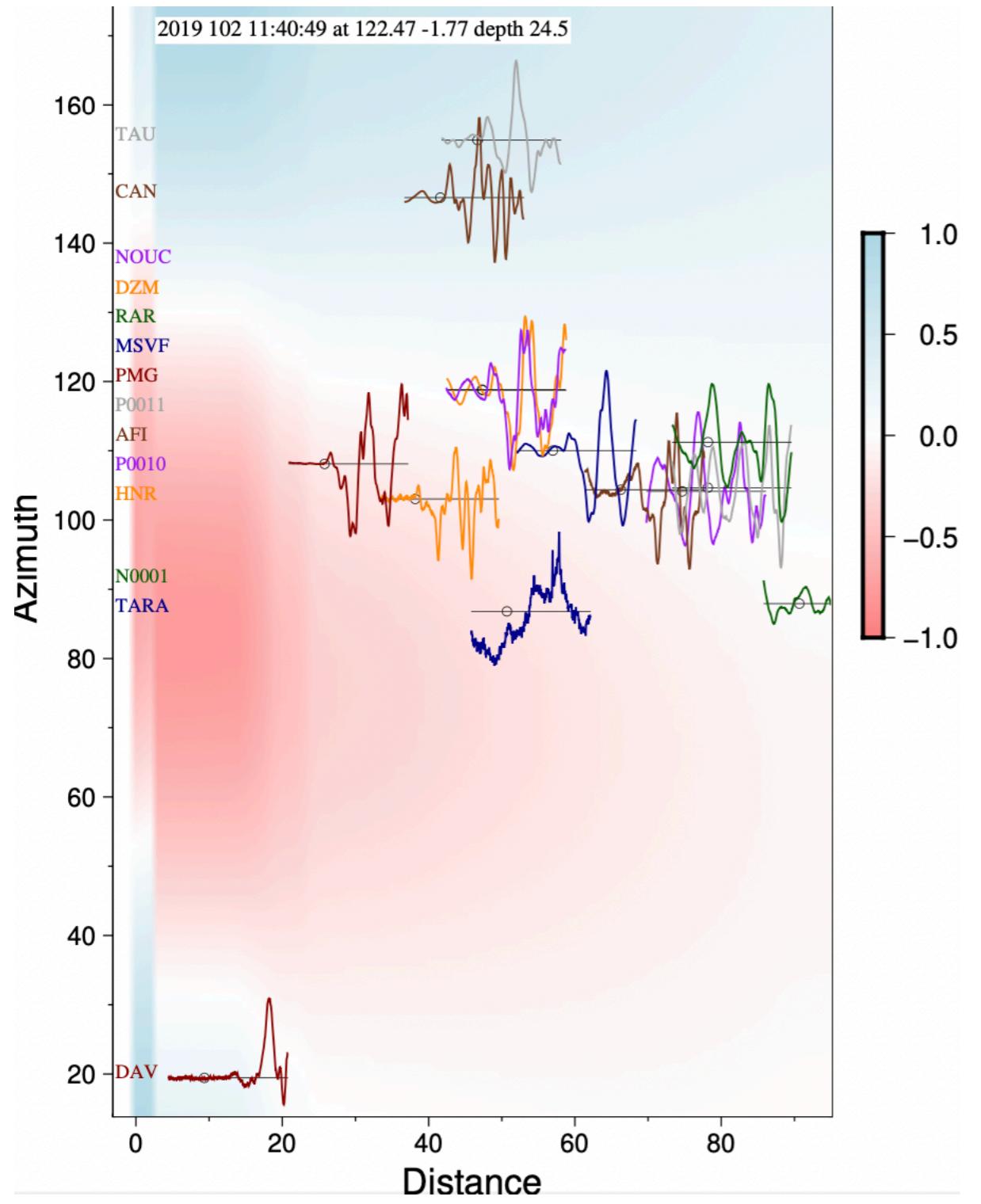
Where to pick NOUC?
P arrives on a
microseismic wiggle



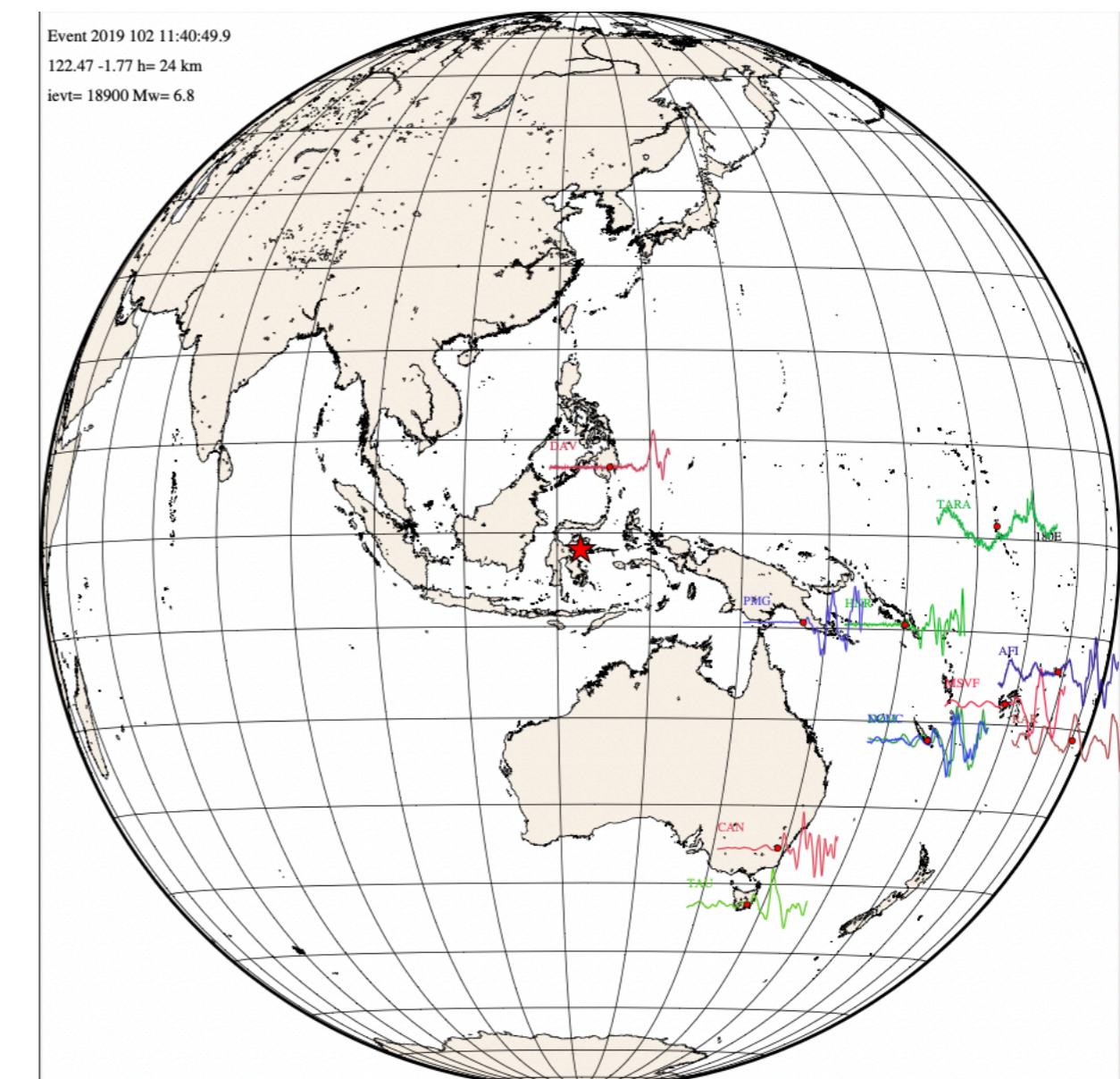
T6 is too early and UP, but NOUC
is clearly in the DOWN zone
The others seem all possible

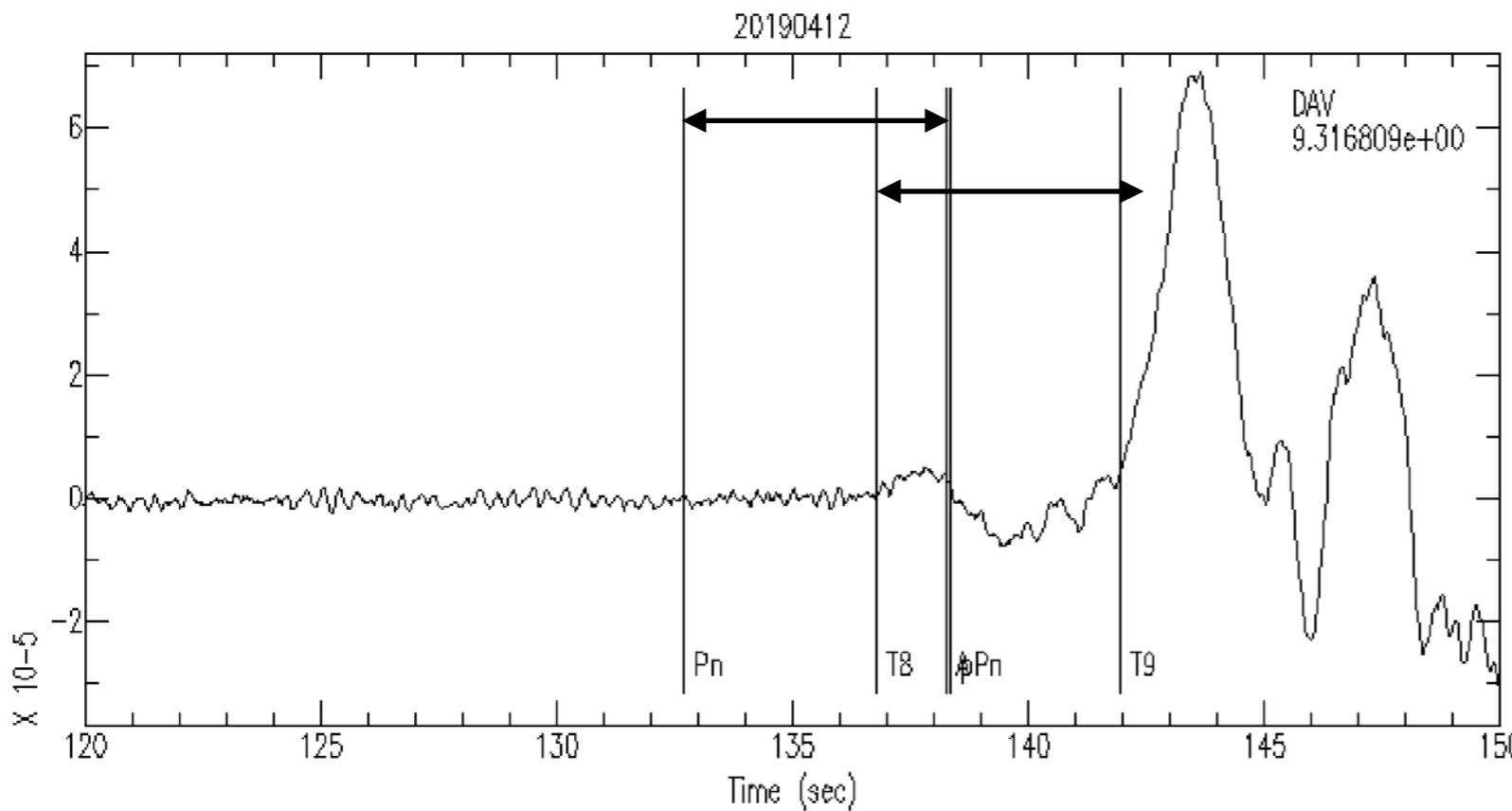


A high pass (at 0.5 Hz)
does not give more clarity -> REJECT



DAV polarity is uncertain





Case of misidentification of pPn: T9 onset is strong but wrong! T8 is correct, A is too late

Large delay in near field (here 4s at 9.3 deg) is not unusual