SeisImager.com

Predict S-wave velocity profile based on deep learning at Kanto, Japan

- Prepare H/V data
- Access to SeisImager.com
- Import H/V data
- Set up site coordinate
- Predict S-wave velocity profile based on deep learning
- Compare observed and theoretical H/V

Note that the prediction based on deep learning is currently only available at Kanto and Kyoto regions in Japan.

Prepare H/V data

Create an ASCII file of H/V data.

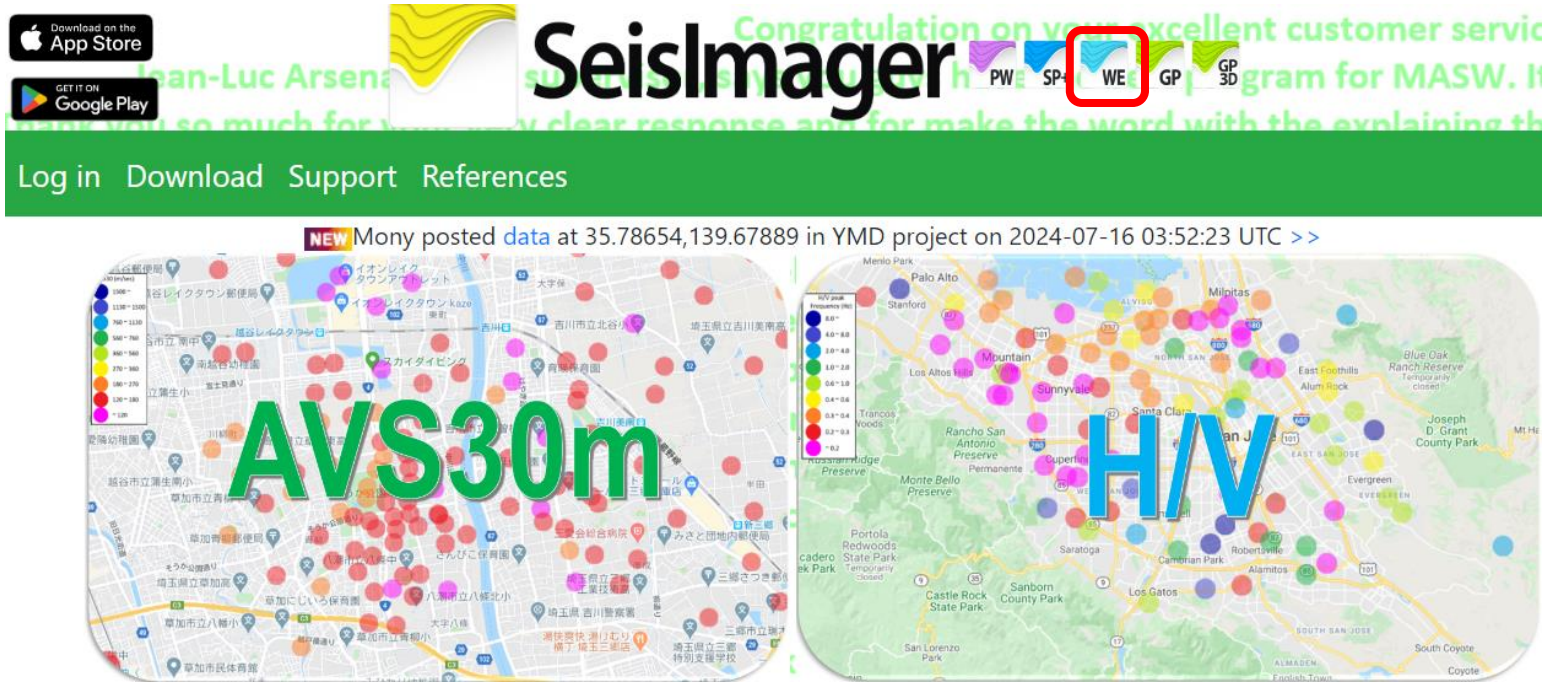
Frequency (Hz)	H/V
0.10376	3.864537
0.109394	3.801767
0.115334	3.729015
0.121596	3.646375
0.128199	3.55521
0.13516	3.458412
.	
.	
.	
17.062106	0.473055
17.519211	0.540452
17.988561	0.564222
18.470485	0.507056
18.96532	0.552044
19.473413	0.477321
19.732541	0.458186

Access to SeisImager.com

URL for H/V processing

https://seisimager.com/hvsr.htm

From SeisImager.com

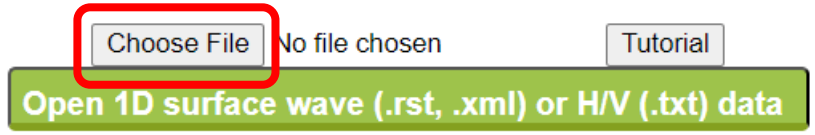


Click WE icon for H/V processing.

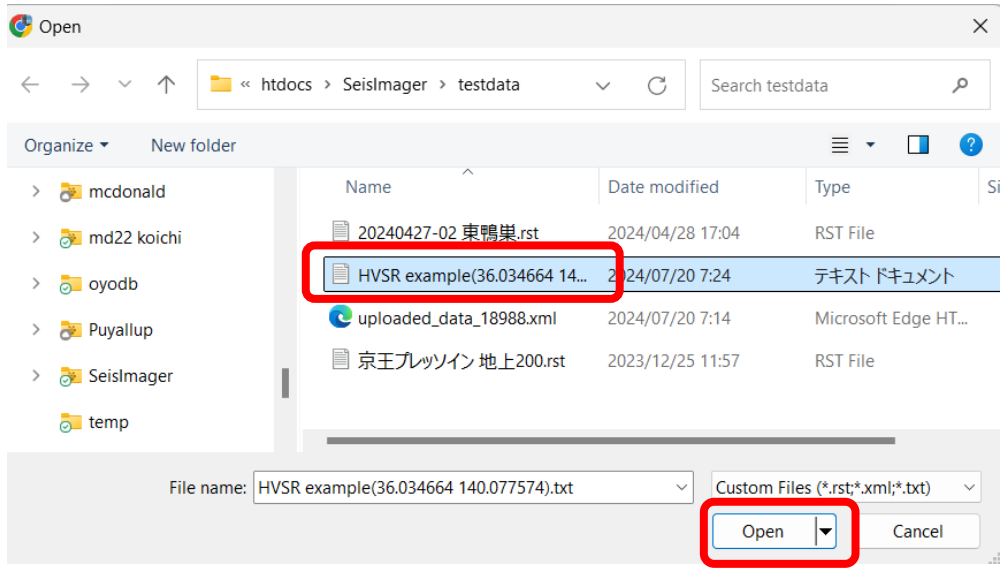
Click SP+ icon to start process waveform data.

Import H/V data

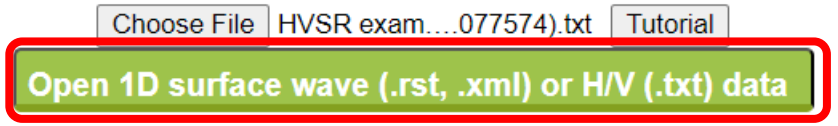
Click “Choose file” button.



Select a ASCII file of H/V data and click “Open”.

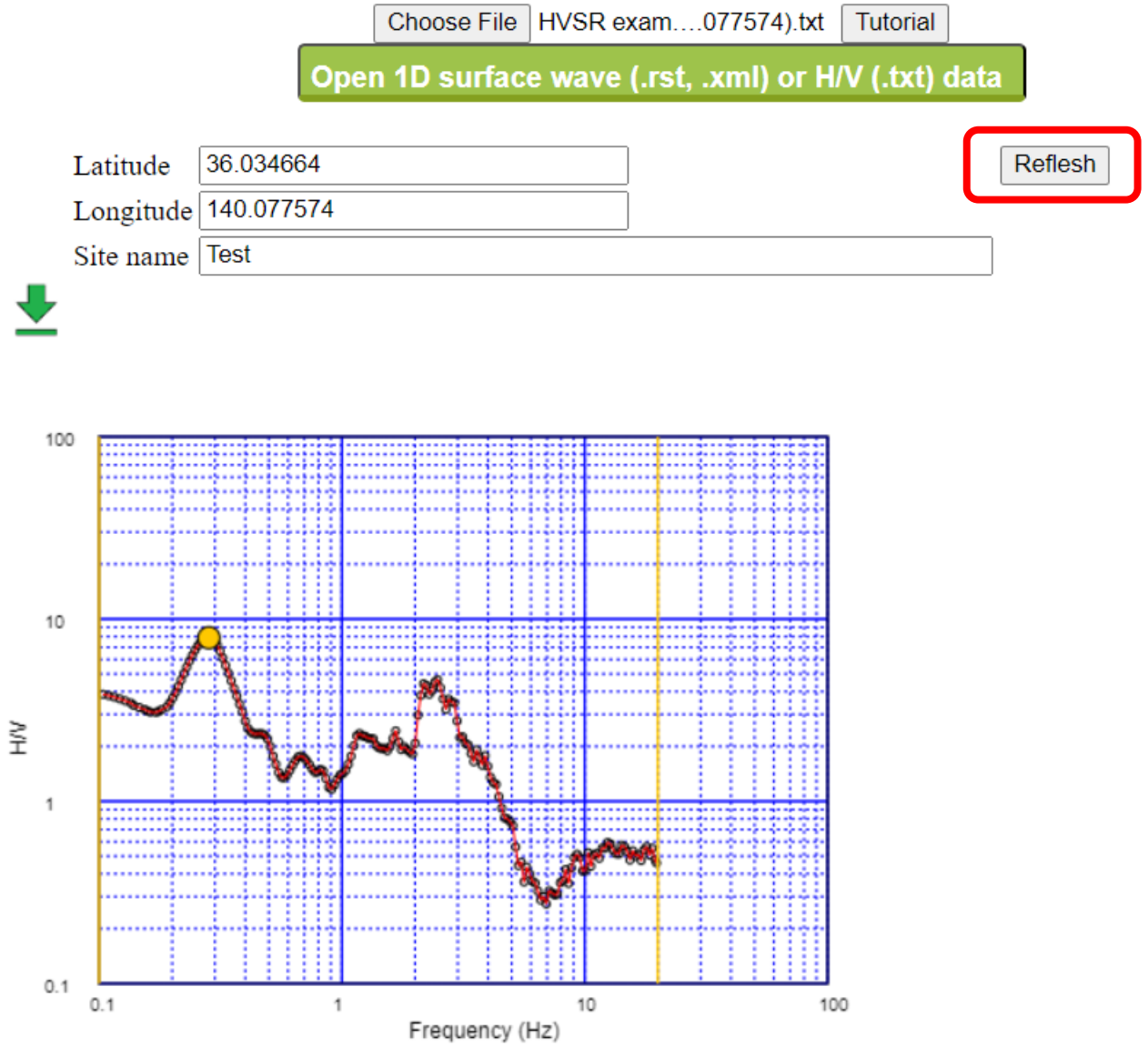


Click “Open 1D surface wave (.rst, .xml) or H/V (.txt) data file”.



Set up site coordinate

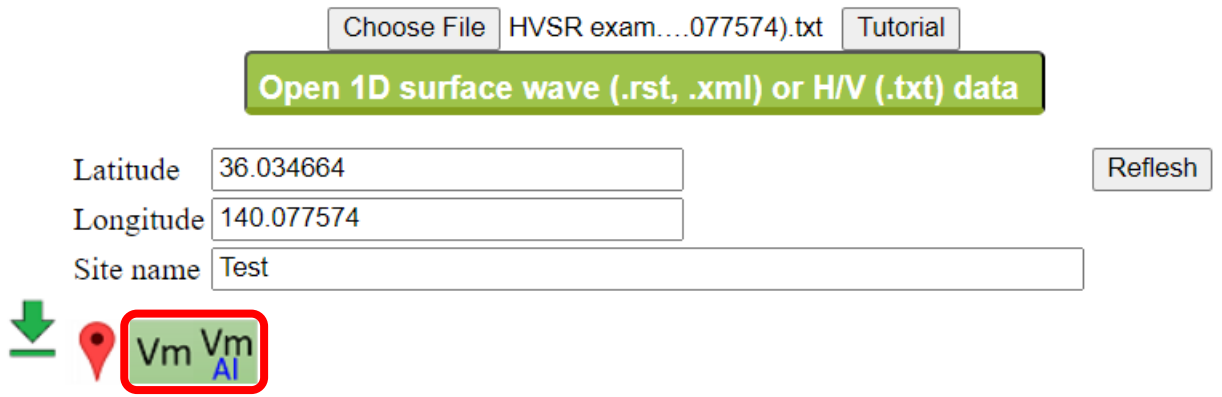
Set up coordinate (and site name) and click “Refresh” button.



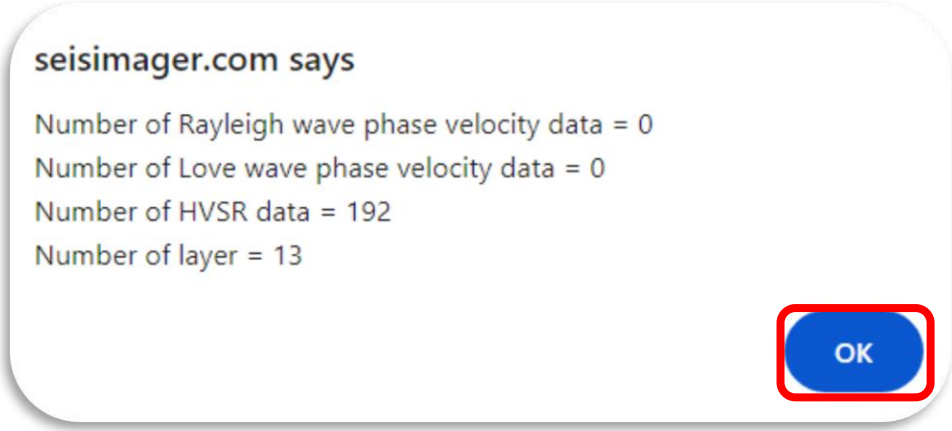
Predict S-wave velocity profile based on deep learning

Click Vm to use a velocity profile based on geomorphological classification and community velocity model.

Click Vm AI to predict a velocity profile based on deep learning.



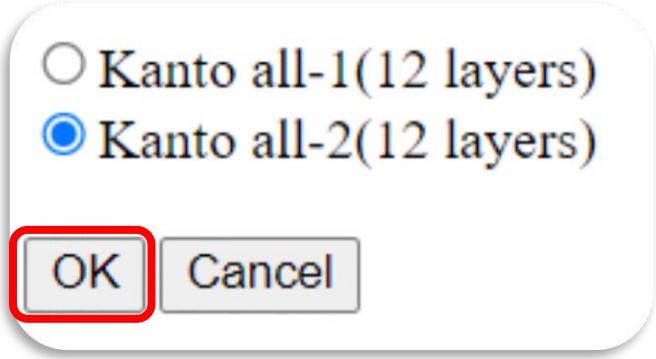
Click Vm or Vm AI and deep velocity profile is imported community velocity model firstly. Click “OK”.



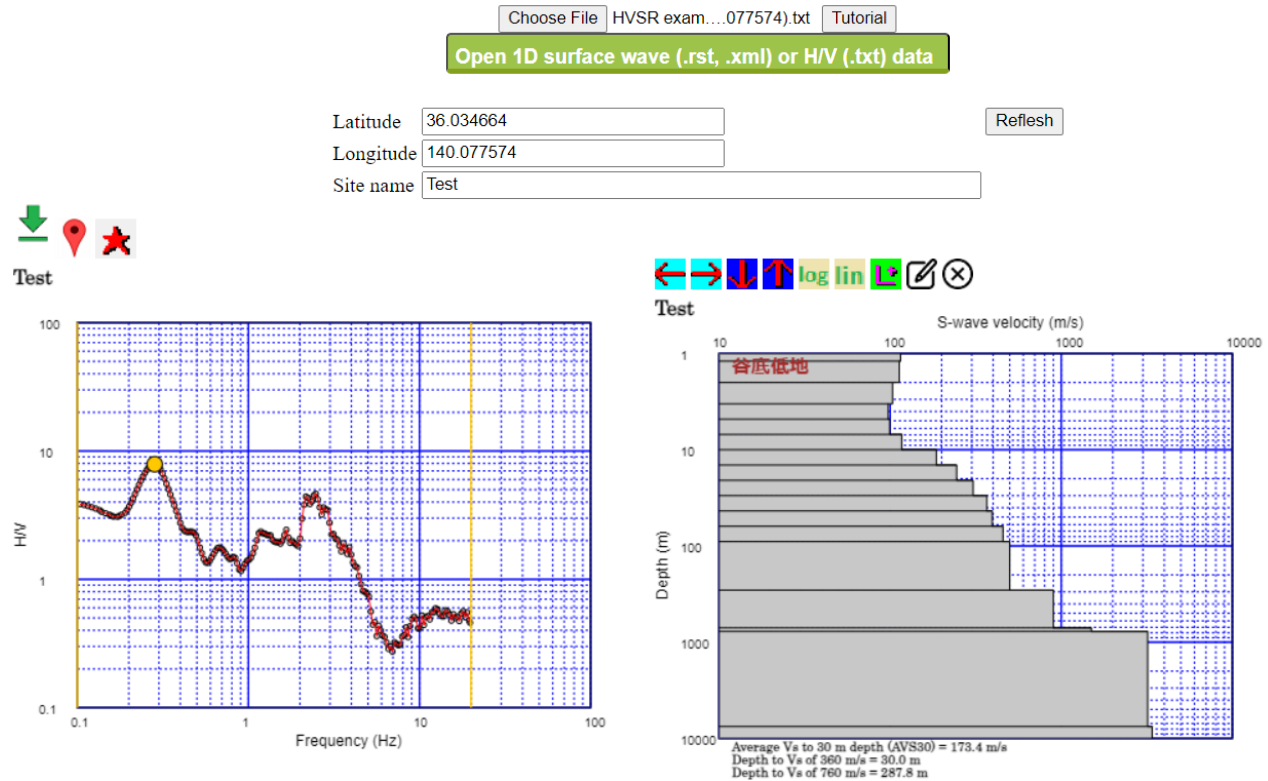
Note that the prediction based on deep learning is currently only available at Kanto and Kyoto regions in Japan. Geomorphological classification and community velocity model are only available at all Japan and San Francisco and Los Angels areas in California, U.S.

Predict S-wave velocity profile based on deep learning

It deep learning was selected, option would appear if two or more networks are available.
Select a network and click “OK”.



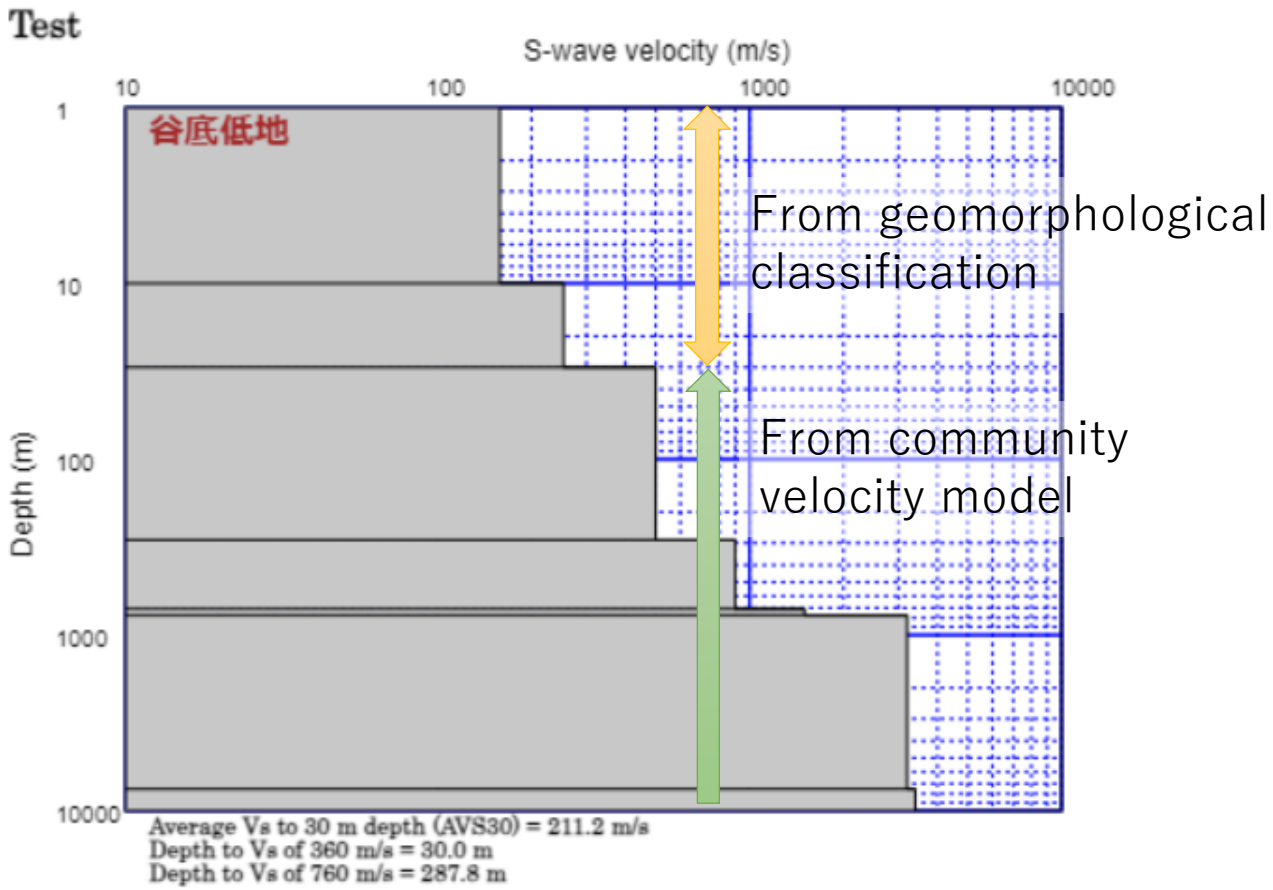
Velocity profile appears.

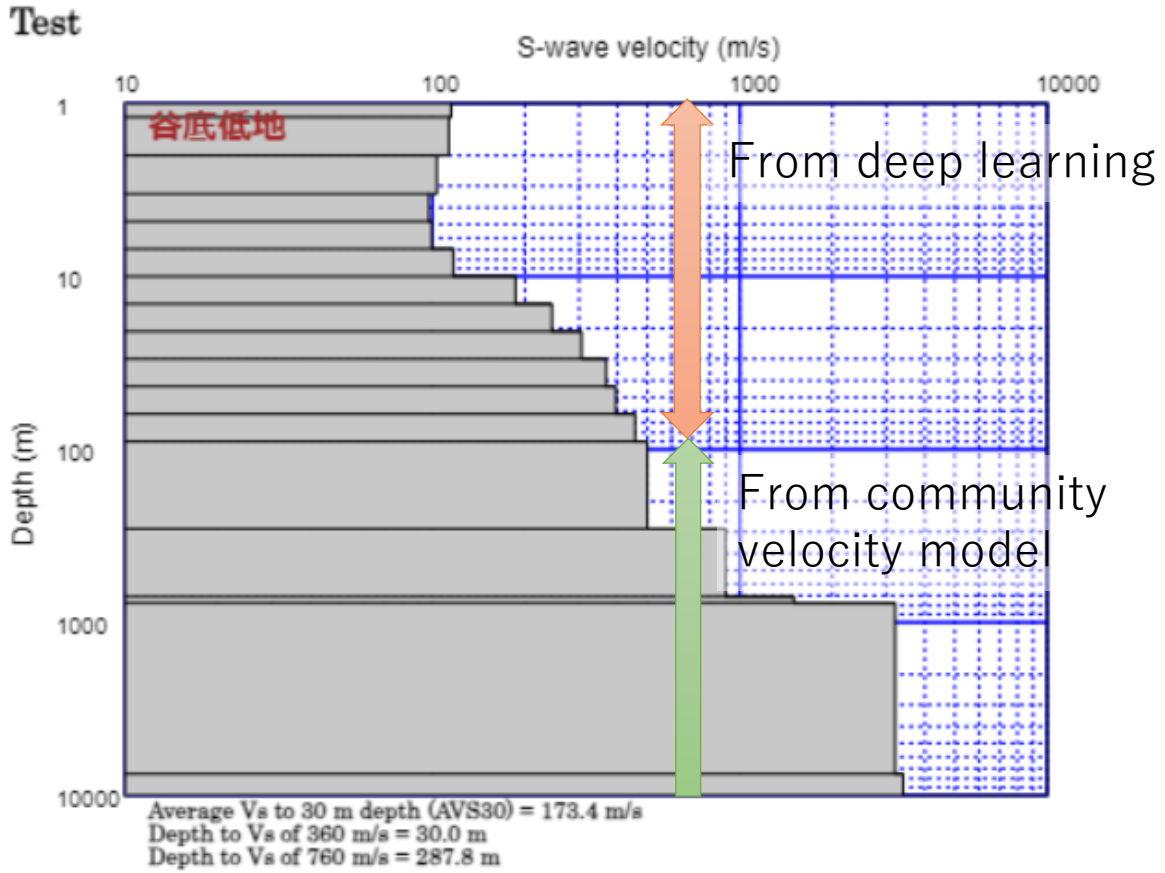


Predict S-wave velocity profile based on deep learning

Velocity profile based on geomorphological classification and community velocity model.

Velocity profile based on deep learning.





Compare observed and theoretical H/V

Click  and theoretical H/V (fundamental mode of Rayleigh wave ellipticity) appears.