



Yun-Ze (Astor) Cheng

Research Assistant

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I am currently working with **Prof. Hsin-Hua Huang** in the Earth Structure Laboratory, Institute of Earth Sciences, Academia Sinica, Taiwan. My recent work is to resolve S-wave velocity model beneath Northern Taiwan through **MCMC Joint Inversion** of surface wave measurements and receiver function with dense seismic array.

Research Experiences

- MCMC joint inversion
- DAS/OBS data calibration & analysis
- Landslide monitoring
- Seismographs deployment
- Seismic imaging (Receiver function)
- Noise sources detection (CCF)

Programming

- Primirly: Python & GMT; Others: C, Fortran, Matlab

Education

Institute of Oceanography of National Taiwan University (NTU)

MA in Marine Geology and Geophysics (MG&G)

Sep. 2018-Jan. 2021

- Crustal Discontinuity and Ambient Noise Sources beneath Dong-Sha Atoll from Buried Ocean-bottom Seismographs (Thesis in English)
Advisors: Pei-Ying Patty Lin , National Taiwan Normal University (NTNU) and Chih-Chieh Don Su (IONTU)

Department of Earth Science, National Central University (NCU), Taiwan

BA in Earth Science

Sep. 2014-July. 2018

- Project: Imaging the velocity discontinuities beneath Dong-Sha island via Receiver function
Advisor: Pei-Ying Patty Lin , Taiwan Ocean Research Institute (TORI)
- Project: Using Chebyshev polynomial to characterise lunar impact craters
Advisor: Wenzhe Fa, Peiking University
- Project: Self-design a sandbox experiment to calculate the energy transformation of impact crater
Advisor: Wing-Huen Ip, NCU

Work experiences & Publications

- TA of Course in title “Earth Science Data Processing” Fall semester, 2020, NTNU
- Summer intern in Taiwan Ocean Research Institute (TORI) 2017/07/01 - 2017/08/31

2022 Cheng, Yun-Ze*, Hsin-Hua Huang, Fan-Chi Lin, Yu-Chien Lin, Wei-Chen Chen, Cheng-Nan Liu, Min-Hung Shih, and Cheng-Horng Lin., 2022. Joint Inversion of Rayleigh Wave Phase Dispersion and Ellipticity and Receiver Functions for crustal S-wave velocity structure of Northern Taiwan (in prep.)

Yun-Ze Astor Cheng*, Pei-Ying Patty Lin, and Chih-Chieh Su., 2022. On the feasibility of utilizing the buried OBS array beneath Dong-Sha atoll for imaging the crustal structure (in prep.)

Conference Publications

- 2021 Cheng, Yun-Ze*, Hsin-Hua Huang, Fan-Chi Lin, Yu-Chien Lin, Wei-Chen Chen, Cheng-Nan Liu, Min-Hung Shih, and Cheng-Horng Lin., 2022. Shear-wave velocity model of Northern Taiwan via Bayesian Joint Inversion of Rayleigh Wave Ellipticity, Phase Velocities, and Receiver Functions across Formosa Array. Taiwan Earthquake Center Meeting Abstract (Poster)

Conference Publications

- 2020 Yun-Ze Astor Cheng*, Pei-Ying Patty Lin, and Chih-Chieh Su., 2020. Crustal Discontinuity and Ambient Noise Sources beneath Dong-Sha Atoll from Buried Ocean-bottom Seismographs, Chinese Taipei Geophysical Society Meeting Abstract (Oral)
- 2019 Yun-Ze Astor Cheng*, Pei-Ying Patty Lin, and Chih-Chieh Su., 2019. Detection of the Crustal Discontinuity and Ambient Noise Sources beneath Dongsha Atoll from Buried OBS Array, AGU Fall Meeting Abstract (Poster), Bibcode: 2019AGUFM.T51E0302C.
- Yun-Ze Astor Cheng*, Pei-Ying Patty Lin, and Chih-Chieh Su., 2019. Detection of the Crustal Discontinuity and Ambient Noise Sources beneath Dongsha Atoll from Buried OBS Array, Taiwan Geosciences Assembly Abstract (Poster)