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研究領域：大地構造學、地球物理學

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[學歷 Education]

- 1998 : Ph.D., Marine Geology and Geophysics, National Taiwan University
- 1990 : M.Sc., Marine Geology and Geophysics, National Taiwan University
- 1987 : B.Sc., Physics, National Taiwan Normal University

[經歷 Experience]

- 2016/01~ : Research Scientist, Institute of Earth Sciences, Academia Sinica
- 2014/08~ : Executive Secretary of Taiwan Earthquake Research Center (TEC)
- 2010/08~ : Adjunct Associate Professor, Inst. Oceanography, National Taiwan Univ.
- 2009/09~2015/12 : Associate Research Scientist, Institute of Earth Sciences, Academia Sinica
- 2005/03~2009/08 : Assistant Research Scientist, Institute of Earth Sciences, Academia Sinica
- 2001/08~2005/02 : Specialist, Data Management Center, Institute of Earth Sciences, Academia Sinica
- 1998/07~2001/07 : Postdoc., Institute of Earth Sciences, Academia Sinica
- 1992/06~1994/06 : Research Assistant, Institute of Earth Sciences, Academia Sinica
- 1990/07~1992/05 : Navy, Taiwan ROC Ensign
- 1987/07~1988/06 : Teaching Assistant, Department of Earth Science, National Taiwan Normal University

Shipboard Experience:

- Heat Flow Measurement off Eastern Taiwan (Training cruise), Ocean Researcher Vessel I, 1990/6
- Marine Thermal Structure off Northeastern Taiwan, Ocean Researcher Vessel I, 1992/7
- Seismic Survey off Eastern Taiwan, Ocean Researcher Vessel I, 1999/7
- Mantle Reservoirs and Migration Associated with Australian-Antarctic Rifting (Geophysicist, ODP Leg 187), JODIES Resolution, 1999/11~2000/1

[著作 Publications]

1. Kate Huihsuan Chen, **Wen-Tzong Liang**, Yu-Feng Wu*, Chun-Hung Lin, accepted, "Citizen seismology in Taiwan: Development, outreach, and formative assessment of near-real time earthquake game competition activities", FRONTIERS IN EARTH SCIENCE. (in press)
2. **Liang, Wen-Tzong**, Jian-Cheng Lee, Nai-Chi Hsiao (2019), Crowdsourcing Platform Toward Seismic Disaster Reduction: The Taiwan Scientific Earthquake Reporting (TSER) System, FRONTIERS IN EARTH SCIENCE, 7, DOI: 10.3389/feart.2019.00079

3. Zhang Yayun, Huajian Yao, Hsin-Ying Yang, Hui-Teng Cai, Hongjian Fang, Jiajun Xu, Xing Jin, Kuo-Chen Hao, **Wen-Tzong Liang**, Kai-Xun Chen, (2018), 3-D Crustal Shear-Wave Velocity Structure of the Taiwan Strait and Fujian, SE China, Revealed by Ambient Noise Tomography, *Journal of Geophysical Research: Solid Earth*, 123(9), 8016-8031. DOI: 10.1029/2018JB015938
4. Jian, Pei-Ru, Tai-Lin Tseng, **Wen-Tzong Liang**, Ping-Han Huang, (2018), A New Automatic FullWaveform Regional Moment Tensor Inversion Algorithm and Its Applications in the Taiwan Area, *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*, 108(2), 573-587, DOI: 10.1785/0120170231
5. Chen Li-Wei, Chen Ying-Nien, Gung Yuancheng*, Lee Jian-Cheng, **Liang Wen-Tzong**, (2017), Strong near-surface seismic anisotropy of Taiwan revealed by coda interferometry, *Earth and Planetary Science Letters*, 475, 224-230.
6. **Liang Wen-Tzong***, Lee Jian-Cheng, Chen Kate Huihsuan, Hsiao Nai-Chi, (2017), Citizen Earthquake Science in Taiwan: From Science to Hazard Mitigation, *Journal of Disaster Research*, 12(6), 1174-1181.
7. Kanamori Hiroo, Ye Lingling, Huang Bor-Shouh, Huang Hsin-Hua, Lee Shiann-Jong, **Liang WenTzong**, Lin Yen-Yu, Ma Kuo-Fong, Wu Yih-Min, Yeh Te-Yang, (2017), A strong-motion hot spot of the 2016 Meinong, Taiwan, earthquake (Mw = 6.4), *Terrestrial, Atmospheric and Oceanic Sciences*, 28(5), 637-650.
8. Konstantinou K. I., Mouslopoulou V., **Liang Wen-Tzong**, Heidbach O., Oncken O., Suppe J., (2017), Present-day crustal stress field in Greece inferred from regional-scale damped inversion of earthquake focal mechanisms, *Journal of Geophysical Research: Solid Earth*, 122(1), 506-523.
9. Yao-Wen Kuo, Chien-Ying Wang, Hao Kuo-Chen*, Xin Jin, Hui-Teng Cai, Jing-Yi Lin, Francis T. Wu, Horng-Yuan Yen, Bor-Shouh Huang, **Wen-Tzong Liang**, David Okaya, Larry Brown, (2016), Crustal structures from the Wuyi-Yunkai orogen to the Taiwan orogen: The onshore-offshore wideangle seismic experiments of the TAIGER and ATSEE projects, *TECTONOPHYSICS*, 692, 164-180.
10. Francis T. Wu*, Zachary E. Ross, David Okaya, Yehuda Ben-Zion, Chien-Ying Wang, Hao KuoChen, **Wen-Tzong Liang**, (2016), Dense network, intense seismicity and tectonics of Taiwan, *TECTONOPHYSICS*, 692, 152-163.
11. Yih-Min Wu*, **Wen-Tzong Liang**, Himanshu Mittal, Wei-An Chao, Cheng-Horng Lin, Bor-Shouh Huang, and Che-Min Lin, (2016), Performance of a Low-Cost Earthquake Early Warning System (PAalert) during the 2016 M L 6.4 Meinong (Taiwan) Earthquake, *SEISMOLOGICAL RESEARCH LETTERS*, 87(5), 1050-1059.
12. Kai-Xun Chen, Hao Kuo-Chen*, Dennis Brown, Qiusheng Li, Zhuo Ye, **Wen-Tzong Liang**, ChenYing Wang, and Huajjian Yao, (2016), Three-dimensional ambient noise tomography across the Taiwan Strait: The structure of a magma-poor rifted margin, *TECTONICS*, 35(8), 1782-1792 DOI: 10.1002/2015TC004097.
13. **Wen-Tzong Liang**, Kate Huihsuan Chen*, Yu-Feng Wu, Eric Yen, Chun-Yen Chang, (2016), Earthquake school in the cloud: Citizen seismologists in Taiwan, *SEISMOLOGICAL RESEARCH LETTERS*, 87(1), 177-185.
14. Chen, Po-Fei*, Erlinton Antonio Olavere, Chen-Wei Wang, Bartolome C. Bautista, Renato U. Solidum Jr., **Wen-Tzong Liang**, (2015), Seismotectonics of Mindoro, Philippines, *TECTONOPHYSICS*, 640-641, 70-79.
15. Kuo, Ban-Yuan, Spahr C. Webb, Ching-Ren Lin, **Wen-Tzong Liang**, and Nai-Chi Hsiao, (2014), Removing Infragravity-Wave-Induced Noise from Ocean-Bottom Seismographs (OBS) Data Deployed Offshore of Taiwan, *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*, 104(4), 1674-1684.
16. Huang, Yu-Chih, Huajian Yao, Francis T. Wu, **Wen-Tzong Liang**, Bor-Shouh Huang, Cheng-Horng Lin, and Kuo-Liang Wen, (2014), Crustal and upper mantle S-wave velocity structures across the Taiwan Strait from ambient seismic noise and teleseismic Rayleigh wave analyses, *JOURNAL OF ASIAN EARTH SCIENCES*, 81, 38-52. (SCI)
17. Konstantinou, K.I., C.P. Evangelidis, **W.T. Liang** and N. S. Melis (2013) Seismicity, Vp/Vs and shear wave anisotropy variations during the 2011 unrest at Santorini caldera, southern Aegean, *Journal of Volcanology and Geothermal Research*, 267, 57-67, doi:

10.1016/j.jvolgeores.2013.10.001 2.

18. Lee, S. J., **W. T. Liang**, H. W. Cheng, F. S. Tu, K. F. Ma, H. Tsuruoka, H. Kawakatsu, B. S. Huang and C. C. Liu (2013). Toward real-time regional earthquake simulation I: Real-time Moment Tensor monitoring (RMT) for regional events in Taiwan, *Geophys. J. Int.*, *196*, 432-446.
19. Huang, B.S., C.Y. Chien, D. David Okaya, S.J. Lee, Y.C. Lai, F.T. Wu, **W.T. Liang**, and W.G. Huang (2013), Multiple diving waves and high-velocity gradients in the western Taiwan Coastal Plain – an investigation based on the TAIGER experiment. *BSSA*, *103(2A)*, 925-935.
20. Lee, S.J., **W.T. Liang**, C.Y. Lu, W.G. Huang and B.S. Huang (2013), Source complexity of the 4 March 2010 JiaSian Taiwan, earthquake determined by joint inversion of teleseismic and near field data. *J. Asian Earth Sci.*, *64*, 14-26. <http://dx.doi.org/10.1016/j.jseaes.2012.11.018>.
21. Theunissen, T., S. Lallemanda, Y. Font, S. Gautiera, C.-S. Lee, **W.T. Liang**, F. Wu, T. Berthet (2012), Crustal deformation at the southernmost part of the Ryukyu subduction (East Taiwan) as revealed by new marine seismic experiments, *Tectonophysics*, 10.1016/j.tecto.2012.04.011.
22. Chen, P.-F., C.R. Bina, H. Kuo-Chen, F.T. Wu, C.-Y. Wang, B.-S. Huang, C.-H. Chen, **W.T. Liang** (2012), Slab-induced waveform effects as revealed by the TAIGER seismic array: Evidence of slab beneath central Taiwan, *Phys. Earth Planet. Inter.*, 196-197, p62-74.
23. Huang, T.-Y., Y. Gung, **W.T. Liang**, L.-Y. Chiao, and L. S. Teng (2012), Broad-band Rayleigh wave tomography of Taiwan and its implications on gravity anomalies, *Geophys. Res. Lett.*, *39*, L05305, doi:10.1029/2011GL050727
24. Evangelidis, C. P., **W.T. Liang**, N. S. Melis, and K. I. Konstantinou (2011), Shear wave anisotropy beneath the Aegean inferred from SKS splitting observations, *J. Geophys. Res.*, *116*, B04314, doi:10.1029/2010JB007884.
25. Yen, J.Y., C. H. Lu, C. P. Chang, A. J. Hooper, Y.H. Chang, **W. T. Liang**, T. Y. Chang, M. S. Lin, and K. S. Chen (2011), Investigating the active deformation in the northern Longitudinal Valley and Hualien City of eastern Taiwan by using Persistent Scatterer and Small-baseline SAR Interferometry, *Terr. Atmos. Ocean*, *22(3)*, 291-304. doi:10.3319/TAO.2010.10.25.01(TT)
26. Chen, Y.N., Y. Gung, S.H. Hung, L.Y. Chiao, T.Y. Huang, Y.L. Chen, **W.T. Liang**, S. Jan (2011). Characteristics of short period secondary microseisms (SPSM) in Taiwan: The influence of shallow ocean strait on SPSM, *Geophys. Res. Lett.*, *38*, L04305, doi:10.1029/2010GL046290.
27. You, S.H., Y.C. Gung, L.Y. Chiao, Y.N. Chen, C.H. Lin, **W.T. Liang** and Y.L. Chen (2010). Multiscale ambient noise tomography of short-period Rayleigh waves across Northern Taiwan, *Bull. Seism. Soc. Am.*, *100* (6), 3165-3173, doi: 10.1785/0120090394.
28. Lee, S. J.*, B. S. Huang, **W. T. Liang** and K. C. Chen, 2010, Grid-Based Moment Tensor Inversion Technique by Using 3-D Green's Functions Database: A Demonstration of the 23 October 2004 Taipei Earthquake, *TERRESTRIAL ATMOSPHERIC AND OCEANIC SCIENCES*, *21(3)*, 503-514.
29. Theunissen, T.*, Y. Font, S. Lallemand and **W.T. Liang**, 2010, The largest instrumentally recorded earthquake in Taiwan: revised location and magnitude, and tectonic significance of the 1920 event, *GEOPHYSICAL JOURNAL INTERNATIONAL*, *183*, 1119-1133.
30. You, S.H., Y.C. Gung*, L.Y. Chiao, Y.N. Chen, C.H. Lin, **W.T. Liang** and Y.L. Chen, 2010, Multiscale ambient noise tomography of short-period Rayleigh waves across Northern Taiwan, *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*, *100(6)*, 3165-3174.
31. Lin, C.R., B.Y. Kuo, **W.T. Liang**, W.C. Chi, Y.C. Huang, J. Collins, and C.Y. Wang. (2010), Ambient Noise and Teleseismic Signals Recorded by Ocean-Bottom Seismometers Offshore Eastern Taiwan. *Terr. Atmos. Ocean.*, *21*, 5, 743-755. doi:10.3319/TAO.2009.09.14.01(T).
32. Okaya, D., F. T. Wu, C.Y. Wang, H.Y., Yen, B.S. Huang, L. Brown and **W.T. Liang** (2009), Joint passive/controlled source seismic experiment across Taiwan, *EOS*, *90*, 34, 289-290.
33. Kuo-Chen, H., F.T. Wu, D. Okaya, B.S. Huang, **W.T. Liang** (2009), SKS/SKKS splitting and Taiwan orogeny, *Geophys. Res. Lett.*, *36*, L12303, doi:10.1029/2009GL038148.
34. Wu, F.T., **W.T. Liang**, J.C. Lee, H. Benz and A. Villasenor (2009), A model for the termination of the Ryukyu subduction zone against Taiwan: A junction of collision, subduction/separation, and subduction boundaries, *J. Geophys. Res.*, *114*, B07404, doi:10.1029/2008JB005950.

35. Chang, E.T.Y., **W.T. Liang** and Y.B. Tsai (2009), Seismic shear wave splitting in upper crust characterized by Taiwan tectonic convergence, *Geophys. J. Int.*, *177*, doi:10.1111/j.1365-246X.2009.04110.x.
36. Chen, R.Y., H. Kao, **W.T. Liang**, T.C. Shin, Y.B. Tsai, B.S. Huang (2009), Three-dimensional patterns of seismic deformation in the Taiwan Region with Special implication from the 1999 ChiChi earthquake sequence, *Tectonophysics*, *466*, doi:10.1016/j.tecto.2007.11.037.
37. Shen, J.S., D.C. Lee and **W.T. Liang** (2009), Absolute Ca isotope measurement using an improved double spike technique, *Terr. Atm. Ocean.*, *20*, 455-464, doi:10.3319/TAO.2008.05.30.01(TT)
38. Lee, S.J., **W.T. Liang**, B.S. Huang (2008), Source Mechanisms and Rupture Processes of the 26 December 2006 Pingtung Earthquake Doublet as Determined from the Regional Seismic Records, *Terr. Atm. Ocean.*, *19*, 555-565. Doi:10.3319/TAO.2008.19.6.555(PT)
39. Chen, K.C., **W.T. Liang**, Y.H. Liu, W.G. Huang, and J.H. Wang (2008). Seismic Moments of Taiwan's Earthquakes Evaluated from a Regional Broadband Array, *Earth Planets Space*, *60*, pp. 559-564.
40. **Liang, W. T.**, J. M. Chiu and K. Kim (2007), Anomalous Pn waves observed in eastern Taiwan: Indication of thin crust and elevated oceanic mantle beneath the active collision zone suture, *Bull. Seism. Soc. Am.*, *97*, doi: 10.1785/0120060226.
41. Konstantinos, K. I., C.H. Lin and **W.T. Liang** (2007), Seismicity characteristics of a potentially active Quaternary volcano: the Tatun Volcano Group, northern Taiwan, *J. Volcanol. Geotherm. Res.*, *106*, 300-318.
42. Huang, B. S., W. G. Huang, **W. T. Liang**, R. J. Rau and N. Hirata (2006), Anisotropy beneath an active collision orogen of Taiwan: Results from across islands array observations, *Geophys. Res. Lett.*, *33*, L24302, doi:10.1029/2006GL027844.
43. Wu, Y.M., H.Y. Yen, L. Zhao, B.S. Huang, and **W.T. Liang** (2006), Magnitude determination using initial P waves: A single-station approach, *Geophys. Res. Lett.*, *33*, L05306, doi:10.1029/2005GL025395.
44. Lin, C.H., K.I. Konstantinou, **W.T. Liang**, H.C. Pu, Y.M. Lin, S.H. You, (2005), Preliminary analysis of volcanoseismic signals recorded at the Tatun Volcano Group, northern Taiwan, *Geophys. Res. Lett.*, *32*, L10313, doi:10.1029/2005GL022861
45. **Liang, W.T.**, Y.H. Liu and H. Kao,(2004), Source Parameters of Regional Earthquakes in Taiwan: January-December, 2002, *TAO*, *15*, 727-741
46. Chen, P.F., B.S. Huang and **W.T. Liang**, (2004), Evidence of a Slab of Subducted Lithosphere Beneath Central Taiwan from Seismic Waveforms and Travel Times, *Earth Planet. Sci. Lett.*, *229*, 61-71. doi:10.1016/j.epsl.2004.10.031
47. Huh, C.A., C.C. Su, **W.T. Liang** and C.Y. Ling, (2004), Linkages between turbidites in the southern Okinawa Trough and submarine earthquakes, *Geophys. Res. Lett.*, *31*, doi:10.1029/2004GL 019731
48. Shau, Y.-H., Torii, M., Horng, C.-S., and **Liang, W.-T.**, (2004), Magnetic properties of mid-oceanridge basalts from Ocean Drilling Program Leg 187. In Pedersen, R.B., Christie, D.M., and Miller, D.J. (Eds.), *Proc. ODP, Sci. Results*, *187* [Online]. Available from World Wide Web: <http://www.odp.tamu.edu/publications/187_SR/204/204.htm
49. Roberts, A.P., M. Winklhofer, **W.T. Liang** and C.S. Horng, (2003), Testing the Hypothesis of Orbital (Eccentricity) Influence on Earth's Magnetic Field, *Earth Planet. Sci. Lett.* *216*, 187-192, 2003. doi:10.1016/S0012-821X(03)00480-1
50. Konstantinou, K.I., H. Kao, C.H. Lin and **W.T. Liang**, (2003), Analysis of broad-band regional waveforms of the 1996 September 29 earthquake at Bardarbunga volcano, central Iceland: investigation of the magma injection hypothesis, *Geophys. J. Int.*, *154*(1), 134-145. doi:10.1046/j.1365-246X.2003.01932.x
51. **Liang, W.T.**, Y.H. Liu and H. Kao, (2003), Source parameters of Regional Earthquakes in Taiwan: January-December, 2001, *TAO* *14*, 249-260
52. Chiao, L.Y. and **W.T. Liang**, (2003), Multiresolution parameterization for geophysical inverse problems, *Geophysics*, *68*, 199-209
53. Horng, C.S., A. Robert and **W.T. Liang**, (2003), A 2.14-Myr astronomically tuned record of relative geomagnetic paleointensity from the western Philippine Sea. *J. Geophys. Res.*, *108*(B11), doi:10.1029/2001JB001698

54. Kao, H., Y.H. Liu, **W.T. Liang**, and Wang-Ping Chen, (2002), Source parameters of regional earthquakes in Taiwan: 1999-2000 Including the Chi-Chi Earthquake sequence, *TAO*, 13, 279-298
55. Horng, C.S., M.Y. Lee, H. Palike, K.Y. Wei, **W.T. Liang**, Y. Iizuka, and M. Tori, (2002), Astronomically calibrated ages for geomagnetic reversals within the Matuyama chron, *Earth Planets Space*, 54, 679-690, 2002.
56. Kao, H., Y.H. Liu, S.C. Chen, and **W.T. Liang**, (2002), Source parameters of regional earthquakes in Taiwan: January-December, 1998, *TAO*, 13, 197-204
57. **Liang, W.T.**, H. Kao and C.C. Liu, (2002), The current status of the Broadband Array in Taiwan for Seismology (BATS), *IRIS Annual Meeting*
58. **Liang, W.T.**, H. Kao, W.G. Huang, and C.C. Liu, (2001), Introduction to the Data Management Center, Institute of Earth Sciences, Academia Sinica, Taiwan, *iSEAT Abstract*, 2001.
59. **Liang, W.T.**, H. Kao, and R. Kao, (2001), Crustal structures beneath the Tarim basin and Tibetan plateau, *Cross-strait seismological conference, IV*
60. Chen, K.J., C.M. Wang, S.K. Hsu, and **W.T. Liang**, Geomagnetic basement relief of the northern Taiwan area, *TAO*, 12, 441-460, 2001.
61. Kao, H., **W.T. Liang**, T.Y. Chang, Y.H. Liu, and E.T. Lee, (2001), Seismic strain field in Taiwan, *Eos Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract T41E-01
62. Christie, D.M., Pedersen, R.B., Miller, D.J., et al., (2001). Proc. ODP, Init. Repts., 187 [CD-ROM]. Available from: Ocean Drilling Program, Texas AandM University, College Station TX 77845-9547, USA.
63. Rau, R.J., **W.T. Liang**, H. Kao., and B.S. Huang, (2000), Shear wave anisotropy beneath the Taiwan Orogen, *Earth Planet. Sci. Lett.*, 177, 177-192.
64. **Liang, W.T.** and H. Kao, (2000), Lateral variation of crustal structure beneath the Tibetan plateau: Inference from Rayleigh wave group velocity inversion, *Eos Trans. AGU*, 81(48), Fall Meet. Suppl., Abstract T72B-05
65. **Liang, W.T.**, L.Y. Chiao and B.Y. Kuo, (2000), Heterogeneous smoothing for block inversion: A case study of D" shear velocity tomography, WPGM,.
66. **Liang, W.T.** and H. Kao, (1999), Crustal structure beneath the Tarim basin: Inference from group velocity inversions, *Eos, Trans. AGU*, 80(47), Fall Meet. Suppl., Abstract T41c-16
67. **Liang, W.T.**, (1998), Upper mantle 3-D shear wave tomography beneath the northern Southeast Indian Ocean, PhD dissertation, pp.135(in Chinese)
68. **Liang, W.T.**, L.Y. Chiao, B.Y. Kuo, and K.J. (1998), Muirhead, Velocity structure associated with the Australian-Antarctic continental rifting, *Eos Trans. AGU*, 79, West. Pac. Geophy. Meet. Suppl., Abstract
69. **Liang, W.T.**, L.Y. Chiao, B.Y. Kuo, and K.J. Muirhead, (1997), Rayleigh Wave Group Velocity Tomography Beneath the Northern Southeast Indian Ocean, *Eos Trans. AGU*, 78, Fall Meet. Suppl., Abstract S41E-05,
70. Yeh, Y.H., H.Y. Yen, K.C. Chen, J.M. Chiu, C.H. Lin, **W.T. Liang**, B.S. Huang, C.R. Lin, and T.Y. Hou, (1997), A high-resolution seismic array experiment in the Hualien area, Taiwan, *TAO*, 8, 329-344.
71. Rau, R.J., **W.T. Liang**, H. Kao, and B.S. Huang, (1997), Shear wave anisotropy beneath the Taiwan Orogen, *Eos Trans. AGU*, 78, Fall Meet. Suppl., Abstract T51C-18, 1997.
72. **Liang, W.T.**, L.Y. Chiao, and B.Y. Kuo, (1996), A Fast Velocity Anomaly to the West of the AAD: Inversion Approach, *Eos Trans. AGU*, 77, West. Pac. Geophy. Meet. Suppl., Abstract S41A-04
73. Yen, H.Y., **W.T. Liang**, B.Y. Kuo, Y.H. Yeh, C.S. Liu, D. Reed, N. Lundberg, F. C. Su and H.S. Chung, (1995), A regional gravity map for the subduction-collision zone near Taiwan, *TAO*, 6, 2, 233-250
74. **Liang, W.T.**, and B.Y. Kuo, (1994), Orthogonal sets of cracks beneath one station at different azimuths: Inference from shear-wave splitting analysis in northern Taiwan, *Eos Trans. AGU*, 75, West. Pac. Geophy. Meet., Abstract SE11A-11
75. **Liang, W.T.**, (1990), Crustal shear wave anisotropy beneath northern Taiwan, *Master thesis*, pp.94(in Chinese)