
Yuanyuan Ma

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EDUCATION

Ph.D. in Geological Resources and Geological Engineering China University of Petroleum Beijing	Sept. 2016-Jun. 2020
Visiting Scholar in Geophysics University of California Berkeley	Oct. 2018-Oct.2019
M.Sc. in Geophysics China University of Petroleum Beijing	Sept. 2014-Aug. 2016
B.Sc. in Geophysics China University of Petroleum East China	Sept. 2010-Jun. 2014

RESEARCH INTEREST

- ❖ Machine learning
- ❖ Signal processing
- ❖ Reservoir characterization
- ❖ Seismic modeling

RESEARCH EXPERIENCE

- ***Machine learning assisted seismic impedance inversion*** ***Jul. 2018- present***
 - Well-log facies classification by semi-supervised learning.
 - Augmented data to generate training data for seismic inversion.
 - Channels reservoir detection and characterization by seismic impedance.
- ***Automated arrival time picking by U-Net*** ***Jul. 2018- Jul. 2019***
 - Automated P- and S-wave picking for microseismic data.
 - Applied 2D training data to keep stable picks and improve accuracy.
 - Classified different types of waveform using unsupervised learning.
- ***Seismic data processing*** ***Jan. 2016- Dec. 2017***
 - Time-frequency analysis by variational mode decomposition (VMD).
 - Attenuated random and coherent noise by adaptive VMD.
 - Un-stationary deconvolution to improve seismic resolution.

PUBLICATIONS

- **Y. Ma**, S. Cao, J. W. Rector, and Z. Zhang, Automated First Arrival Picking Using Pixel-Level Networks. *Geophysics*, vol 85, No. 5, 2020.
- **Y. Ma**, and S. Cao, Random noise attenuation using an adaptive variational mode decomposition. *Journal of Seismic Exploration*, vol 28, No. 3, 2019.
- Y. Tao, S. Cao, **Y. Ma**, and M. Ma, Second Order Adaptive Synchrosqueezing S Transform and its Application in Seismic Ground Roll Attenuation. *IEEE Geosciences and Remote*

Sensing Letters, 2019.

- X. Yang, H. Lu, R. Wang, **Y. Ma**, et al. Q modification under the situation of strong attenuation. Geophysical and Geochemical Exploration, vol 39, No. 5, 2015.
- **Y. Ma**, S. Cao, and J. W. Rector, Automatic first arrival picking for borehole seismic data using a pixel-level network. 89th SEG Extended Abstract, 2019.
- **Y. Ma**, S. Cao, Z. Cui, and D. Yuan, Spectral decomposition based on multiple windows reassigned spectrum. International Exposition and 86th Annual Meeting, SEG, Extended Abstract, 2016, 1722-1726.
- **Y. Ma**, S. Cao, D. Yuan, and Z. Wang, Colored Gabor Deconvolution. 78th Annual International Conference and Exhibition, EAGE, Extended Abstracts, 2016.
- **Y. Ma**, S. Cao, H. Zhang, and D. Yuan, Research on relationship between peak frequency and thickness of thin layer. Annual Meeting of Chinese Geoscience Union, 2014.
- S. Cao, P. Sun, Y. Zhang, J. Yu, X. Pan, **Y. Ma**, X. Sun, and Z. Guo. Weighted adaptive stacking method for seismic data processing. ZL201710595306. X [P].
- S. Cao, D. Yuan, Y. He, **Y. Ma**, H. Zhang, and Z. Cui. Amplitude preserved denoising for prestack seismic data. CN201510494159.8 [P].

SKILLS

Programming: Python, Matlab

Software: Madagascar, Landmark, Jason etc.

REFEREE LIST

- **Siyuan Cao (Ph.D supervisor)**, Professor, China University of Petroleum Beijing.
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- **James W. Rector**, Professor, University of California Berkeley
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- **Kurt Nihei**, Scientist, Lawrence Berkeley National Laboratory
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