导师简介：钟雨，男，博士，副教授，硕士生导师，主要从事人工智能、图像处理、信号分析与处理等方面的研究工作。近几年来，作为负责人或主要参与人主持、参与了湖北省自然科学基金、教育部重点实验室、湖北省重点实验室、中石化等多项课题研究，在国内外重要学术刊物上发表学术论文多篇，获得国家授权发明专利 2 项。担任《Geophysics》、《IEEE Transactions on Geoscience and Remote Sensing》、《Geophysical Prospecting》、《石油物探》等多个期刊审稿人。

研究方向：人工智能、图像处理、信号分析与处理、计算数学及物理等

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主持的科研项目：

1、声弹耦合波动方程驱动的海底多分量地震反射波和多次波同时联合成像，湖北省自然科学基金一般面上项目，主持，在研。

2、基于镜像原理的一阶表面多次波和反射波叠前联合逆时偏移方法研究，地球内部多尺度成像湖北省重点实验室，主持，结题。

3、高效稳定的起伏地表多分量地震逆时偏移方法研究，湖北汽车工业学院博士启动资金，主持，在研。

4、高精度弹性波最小二乘逆时偏移方法研究，长江大学油气资源与勘探技术教育部重点实验室开放基金，主持，在研。

学术论文：

[1] A new joint reverse time migration method to improve vertical seismic profile image quality. Journal of Petroleum Science and Engineering.

[2] Elastic least-squares reverse time migration based on decoupled wave equations. Geophysics.

[3] Source-independent time-domain Vector-acoustic full-waveform inversion. Geophysics.

[4] Elastic reverse time migration method in vertical transversely isotropic media including surface topography. Geophysical Prospecting.

[5] Elastic full waveform inversion based on decoupled wave equations. Journal of Applied Geophysics.

[6] Elastic reverse time migration in VTI media based on the acoustic wave equations. Journal of Applied Geophysics.

[7] A new elastic least squares reverse-time migration method based on the new gradient equations. Acta Geophysica.

[8] Elastic Reverse-Time Migration with Complex Topography. Energies.

[9] Time-domain acoustic full-waveform inversion based on dual-sensor seismic acquisition system. Journal of Seismic Exploration.

[10] Some improvement strategies for the time-domain dual-sensor full waveform inversion. Arabian Journal of Geosciences.

[11] Anisotropic elastic least-squares reverse time migration with density variations in vertical transverse isotropic media. Acta Geophysica.

[12] Simulate the elastic wavefields in media with an irregular surface topography based on staggered grid finite difference. Journal of Geophysics and Engineering.

[13] Anisotropic Wave Separation Elastic Reverse Time Migration based on the pseudo-decoupled

wave equations in VTI Media. IEEE Geoscience and Remote Sensing Letters.
[14] A downhole migration-based location method based on cross-correlation-weighted semblance for microseismic events. Journal of Geophysics and Engineering.
[15] Machine Learning-based Seafloor Seismic Prestack Inversion. IEEE Transactions on Geoscience and Remote Sensing.
[16] Seafloor Elastic Parameters Estimation Based on a Regularized AVO Inversion Method. Marine Geophysical Research.
[17] A Novel Polarity Correction Method Developed on Cross Correlation Analysis for Downhole Migration-Based Location of Microseismic Events. Energies.
[18] A migration-based location method using improved waveform stacking for microseismic events in a borehole system. Acta Geophysica.
[19] Establishing a Robust Model Using Stacked Generalization for Gas Identification of Coal-Bearing Strata in the A Block, Northeastern Ordos Basin, China. SPE Journal.
[20] Log Facies Identification via Dynamic Classifier Selection. APPLIED GEOPHYSICS.
[21] 边缘保真去噪时窗分解新方法，《科学技术与工程》。
[22] 基于流体替换的地震波场数值模拟与分析技术，《科学技术与工程》。
[23] 基于成像函数优化的井中微震波形叠加定位方法，《石油地球物理物探》。

授权国家发明专利：

[1] 一种基于实际地震资料的交错网格波动方程正演的方法，国家授权发明专利。
[2] 一种基于波动方程正演去除直达波的方法，国家授权发明专利。