Xiaolong Wei

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Education

2018– **Ph.D in Geophysics**, University of Houston, Houston, USA

2015–2018 **M.S. in Geology**, Northwest University, Xi'an, China

2011–2015 **B.S. in Geophysics**, China University of Geosciences, Beijing, China

Research Interests

- Inversion of geophysical data sets (e.g., gravity, gravity gradiometry and magnetic data).
- Structural similarity constraint joint inversion.
- Uncertainty analysis in geophysical separate/joint inversions in both deterministic and stochastic frameworks.
- Geology differentiation models.

Awards & Honors

2020 Outstanding Academic Achievement, University of Houston, Houston, USA

2018 The First Prize Scholarship, Northwest University, Xi'an, China

2017 The First Prize Scholarship, Northwest University, Xi'an, China

2016 The First Prize Scholarship, Northwest University, Xi'an, China

2015 Best Bachelor Thesis, China University of Geosciences, Beijing, China

2013 The Second Prize Scholarship, China University of Geosciences, Beijing, China

Publications

Peer-Reviewed

3. **Wei, X.** and Sun, J., 2020. Uncertainty analysis of 3D potential-field deterministic inversion using mixed Lp norms. *Geophysics*. under revision

2. Sun, J., **Wei, X.**, 2020. Recovering sparse models in 3D potential-field inversion with-

out bound dependence or staircasing problems using a mixed Lp-norm regularization. *Geophysical Prospecting*. doi:10.1111/1365-2478.13063.

1. Sun, J., Melo, A., Kim, J.D. and **Wei, X.**, 2020. Unveiling the 3D undercover structure of a Precambrian intrusive complex by integrating airborne magnetic and gravity gradient data into 3D quasi-geology model building. *Interpretation*, 8(4), pp.1-50. doi:10.1190/INT-2019-0273.1.

In preparation

1. **Wei, X.** and Sun, J.,. Uncertainty analysis of 3D geology differentiation models via joint inversion.

Conference Proceedings

3. **Wei, X.** and Sun, J., 2020. Uncertainty analysis of joint inversion using mixed Lp-norm regularization. In *SEG Technical Program Expanded Abstracts 2020* (pp. 925-929). Society of Exploration Geophysicists. doi:10.1190/segam2020-3428359.1.

2. **Wei, X.** and Sun, J., 2020. Quantifying uncertainties of deterministic geophysical inversions using mixed Lp norms. In *SEG Technical Program Expanded Abstracts 2020* (pp. 1404-1408). Society of Exploration Geophysicists. doi:10.1190/segam2020-3420227.1.

1. Sun, J., Melo, A., Deok Kim, J. and **Wei, X.**, 2020. Characterizing a Precambrian intrusive complex by integrating potential field data into 3D quasi-geology model building. In *SEG Technical Program Expanded Abstracts 2020* (pp. 1374-1378). Society of Exploration Geophysicists. doi:10.1190/segam2020-3428385.1.

Invited Talks

Professional Activities

2020– Core contributor of joint inversion code in SimPEG (https://simpeg.xyz/).

Reviewers