

List of publications¹

Romain Brossier

Publications in peer-reviewed international journals

- [1] Jet Hoe Tang, Romain Brossier, and Ludovic Métivier. Fully scalable solver for frequency-domain visco-elastic wave equations in 3d heterogeneous media : A controllability approach. *Journal of Computational Physics*, 468 :111514, 2022.
- [2] A. Nouibat, L. Stehly, A. Paul, S. Schwartz, Y. Rolland, T. Dumont, W. C. Crawford, R. Brossier, and Cifalps Team, and AlpArray Working Group . Ambient-noise tomography of the ligurian-provence basin using the alparray onshore-offshore network : Insights for the oceanic domain structure. *Journal of Geophysical Research : Solid Earth*, 127(8) :e2022JB024228, 2022. e2022JB024228 2022JB024228.
- [3] Arnaud Pladys, Romain Brossier, Nishant Kamath, and Ludovic Métivier. Robust FWI with graph space optimal transport : application to 3D OBC Valhall data. *Geophysics*, in press, 2022.
- [4] Ludovic Métivier and Romain Brossier. Receiver-extension strategy for time-domain full-waveform inversion using a relocalization approach. *GEOPHYSICS*, 87(1) :R13–R33, 2022.
- [5] T M Irnaka, R Brossier, L Métivier, T Bohlen, and Y Pan. 3-D multicomponent full waveform inversion for shallow-seismic target : Ettlingen Line case study. *Geophysical Journal International*, 229(2) :1017–1040, 12 2022.
- [6] Jian Cao, Romain Brossier, Andrzej Górszczyk, Ludovic Métivier, and Jean Virieux. 3-D multiparameter full-waveform inversion for ocean-bottom seismic data using an efficient fluid–solid coupled spectral-element solver. *Geophysical Journal International*, 229(1) :671–703, 2022.
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- [8] P T C Carvalho, S L E F da Silva, E F Duarte, R Brossier, G Corso, and J M de Araújo. Full waveform inversion based on the non-parametric estimate of the probability distribution of the residuals. *Geophysical Journal International*, 229(1) :35–55, 2022.
- [9] Peng Yong, Romain Brossier, and Ludovic Métivier. Parsimonious truncated newton method for time-domain full-waveform inversion based on the fourier-domain full-scattered-field approximation. *Geophysics*, 87(1) :R123–R146, 2022.
- [10] Alain Manceau, Romain Brossier, and Brett Poulin. Response to comment on “mercury isotope fractionation by internal demethylation and biomineralization reactions in seabirds : Implications for environmental mercury science” : Principles and limitations of source tracing and process tracing with stable isotope signatures. *Environ. Sci. Technol.*, 56(3) :2065–2068, 2022.

1. [update 09/2018], an up-to-date list is also available at <https://users.isterre.fr/brossier/>, with links to pdfs or publisher pages for most of publications and proceedings

- [11] Alain Manceau, Romain Brossier, and Brett Poulin. Mercury isotope fractionation by internal demethylation and biomineralization reactions in seabirds : Implications for environmental mercury science. *Environ. Sci. Technol.*, 55(20) :13942–13952, 2021.
- [12] Alain Manceau, Romain Brossier, and Brett Poulin. Chemical forms of mercury in pilot whales determined from species-averaged mercury isotope signatures. *ACS Earth and Space Chemistry*, 5(6) :1591–1599, 2021.
- [13] Daniela Teodor, Cesare Comina, Farbod Khosro Anjom, Romain Brossier, Laura Valentina Socco, and Jean Virieux. Challenges in shallow target reconstruction by 3d elastic full-waveform inversion — which initial model? *GEOPHYSICS*, 86(4) :R433–R446, 2021.
- [14] Andrzej Górszczyk, Romain Brossier, and Ludovic Métivier. Graph-space optimal transport concept for time-domain full-waveform inversion of ocean-bottom seismometer data : Nankai trough velocity structure reconstructed from a 1d model. *Journal of Geophysical Research : Solid Earth*, 126(5) :e2020JB021504, 2021. e2020JB021504 2020JB021504.
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- [1] L. Métivier, A. Allain, R. Brossier, Q. Méridot, and J. Oudet, E.and Virieux. On the use of optimal transport distances for a pde-constrained optimization problem in seismic imaging. In Harbir Antil, Drew P. Kouri, Martin-D. Lacasse, and Denis Ridzal, editors, *Frontiers in PDE-Constrained Optimization*, pages 377–397. Springer New York, New York, NY, 2018.
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Thesis

- [1] R. Brossier. *Imagerie sismique à deux dimensions des milieux visco-élastiques par inversion des formes d'onde :développements méthodologiques et applications*. PhD thesis, Université de Nice-Sophia-Antipolis, 2009.
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Proceedings of international conferences with peer-review

- [1] Ludovic Métivier and Romain Brossier. New insights on the graph-space optimal transport distance for full-waveform inversion. In *First International Meeting for Applied Geoscience & Energy Expanded Abstracts*, pages 812–816, 2021.

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- [3] Jet Hoe Tang, Romain Brossier, and Ludovic Métivier. Solving frequency-domain elastic wave equations via parallel controllability methods. In *First International Meeting for Applied Geoscience & Energy Expanded Abstracts*, pages 2470–2474, 2021.
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