

# Liste complète de publications

Ludovic Métivier

26 juin 2025

## Publications dans des revues internationales à comité de lecture

### • 2025

1. Abdellaziz, A., Brossier, R., Métivier, L., and Oudet, E. (2024b). Optimal experimental design for full waveform inversion using a wavenumber sampling criterion—part 1 : 2-d to methodological development. *Geophysical Journal International*, 240(3):1429–1459
2. Abdellaziz, A., Brossier, R., Métivier, L., and Oudet, E. (2024c). Optimal experimental design for full waveform inversion using a wavenumber sampling criterion—part 2: 3-d extension and practical application. *Geophysical Journal International*, 240(3):1460–1480
3. Fachtony, F. A., Brossier, R., Boddupali, B., Dupuy, B., Métivier, L., and Romdhane, A. (2025a). CO<sub>2</sub> monitoring at sleipner field using reflection oriented full waveform inversion: Part 1 - baseline reconstruction. *Geophysical Journal International*, 241(2):1226–1242
4. Fachtony, F. A., Brossier, R., Boddupali, B., Dupuy, B., Métivier, L., and Romdhane, A. (2025b). CO<sub>2</sub> monitoring at sleipner field using reflection oriented full waveform inversion: Part 2 - 4d investigation. *Geophysical Journal International*, 242(1):ggaf185
5. Górszczyk, A., Almeida, R., Brossier, R., Métivier, L., and Operto, S. (2025). Constraining the effect of bathymetric high subduction in an accretionary wedge: Evidence from the Tokai area of the Nankai trough, japan. *Geochemistry, Geophysics, Geosystems*, 26(3):e2024GC011754
6. Métivier, L., Bièvre, G., Brossier, R., Cao, J., Garambois, S., Nouibat, A., Provenzano, G., and Tarayoun, A. (2025). Elastic full-waveform inversion of seismic ambient noise. *The Leading Edge*, 44(5):373a1–373a12
7. Provenzano, G., Bièvre, G., Brossie, R., Garambois, S., and Métivier, L. (2025). 3d imaging of the harmalière alpine landslide by interferometry and wave-equation tomography. *Geophysical Journal International*, submitted
8. Todeschi, G., Métivier, L., and Mirebeau, J. (2025). Unbalanced l1 optimal transport for vector valued measures and application to full waveform inversion. *Journal of Computational Physics*, 523

### • 2024

9. Cao, J., Brossier, R., Capdeville, Y., Métivier, L., and Sambolian, S. (2024). A fully scalable homogenization method to upscale 3D elastic media. *Geophysical Journal International*, 238(1):72–90
10. Górszczyk, A., Brossier, R., and Métivier, L. (2024). On the Effect of 3D Wave Propagation on 2D Regional-Scale Velocity Model Building. *Journal of Geophysical Research: Solid Earth*, 129(3):e2023JB028172
11. Hoffmann, A., Brossier, R., Métivier, L., and Tarayoun, A. (2024a). Local uncertainty quantification for 3-D time-domain full-waveform inversion with ensemble Kalman filters: application to a North Sea OBC data set. *Geophysical Journal International*, 237(3):1353–1383

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12. Métivier, L., Brossier, R., Hoffmann, A., Mirebeau, J.-M., Provenzano, G., Tarayoun, A., and Yong, P. (2024a). Coherence-enhancing anisotropic diffusion filter for 3D high resolution reconstruction of P-wave velocity and density using full waveform inversion: application to a North Sea Ocean Bottom Cable dataset. *Geophysics*, 89(1):R33–R58
  13. Métivier, L. and Brossier, R. (2024). On the adjoint state method for the gradient computation in full waveform inversion: a complete mathematical derivation for the (visco-)elastodynamics approximation. *Geophysical Journal International*, 240(2):942–966
  14. Provenzano, G., Brossier, R., and Métivier, L. (2024b). Robust and efficient waveform-based velocity-model-building by optimal-transport in the pseudotime domain: an OBC case study in the North Sea. *Geophysics*, 89(2):B83–B103
  15. Yong, P., Brossier, R., and Métivier, L. (2024a). Inversion strategies for q estimation in visco-acoustic full-waveform inversion. *Geophysics*, in revision
  - 2023
    16. Adriaens, X., Métivier, L., and Geuzaine, C. (2023). Inner product preconditioned trust-region methods for frequency-domain full waveform inversion. *Journal of Computational Physics*, 493:112469
    17. Górszczyk, A., Almeida, R., Brossier, R., Métivier, L., and Operto, S. (2023). Imaging the effects of seamount subduction: evidence from the Tokai area, Nankai Trough, Japan. *Geochemistry, Geophysics, Geosystems*, submitted
    18. Provenzano, G., Brossier, R., and Métivier, L. (2023). Robust and efficient waveform-based velocity-model building by optimal transport in the pseudotime domain: Methodology. *Geophysics*, 88(2):U49–U70
    19. Yong, P., Brossier, R., Métivier, L., and Virieux, J. (2023a). Localized adaptive waveform inversion: theory and numerical verification. *Geophysical Journal International*, 233(2):1055–1080
    20. Yong, P., Brossier, R., Métivier, L., and Virieux, J. (2023b). Localized adaptive waveform inversion: regularizations for Gabor deconvolution and 3-D field data application. *Geophysical Journal International*, 235(1):448–467
  - 2022
    21. Cao, J., Brossier, R., Górszczyk, A., Métivier, L., and Virieux, J. (2022b). 3D multi-parameter full-waveform inversion for ocean-bottom seismic data using an efficient fluid-solid coupled spectral-element solver. *Geophysical Journal International*, 229(1):671–703
    22. Desquilbet, F., Mirebeau, J.-M., and Métivier, L. (2022). Single pass eikonal solver in tilted transversely anisotropic media. *Mathematics of Computation*, submitted
    23. Irnaka, T. M., Brossier, R., Métivier, L., Bohlen, T., and Pan, Y. (2022). 3D Multi-component Full Waveform Inversion for Shallow-Seismic Target: Ettlingen Line Case Study. *Geophysical Journal International*, 229(2):1017–1040
    24. Métivier, L. and Brossier, R. (2022a). On the use of nonlinear anisotropic diffusion filters for seismic imaging using the full waveform. *Inverse Problems*, 38(11):115001
    25. Métivier, L. and Brossier, R. (2022b). Receiver-extension strategy for time-domain full-waveform inversion using a relocalization approach. *Geophysics*, 87(1):R13–R33
    26. Métivier, L., Brossier, R., Kpadonou, F., Messud, J., and Pladys, A. (2022). A review of the use of optimal transport distances for high resolution seismic imaging based on the full waveform. *Mathematics In Action*, 11(1):3–42
    27. Pladys, A., Brossier, R., Kamath, N., and Métivier, L. (2022). Robust FWI with graph space optimal transport: application to 3D OBC Valhall data. *Geophysics*, 87(3):1–76
    28. Tang, J. H., Brossier, R., and Métivier, L. (2022). Fully scalable solver for frequency-domain visco-elastic wave equations in 3D heterogeneous media: a controllability approach. *Journal of Computational Physics*, 468:111514

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- 29. Yong, P., Brossier, R., and Métivier, L. (2022a). Parsimonious truncated newton method for time-domain full-waveform inversion based on the fourier-domain full-scattered-field approximation. *Geophysics*, 87(1):R123–R146
  - 2021
    - 30. Desquillet, F., Cao, J., Cupillard, P., Métivier, L., and Mirebeau, J.-M. (2021a). Single pass computation of first seismic wave traveltime in three dimensional heterogeneous media with general anisotropy. *Journal of Scientific Computing*, 89(23)
    - 31. Górszczyk, A., Brossier, R., and Métivier, L. (2021). 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
    - 32. Górszczyk, A., Brossier, R., and Métivier, L. (2021). Nankai trough velocity structure reconstruction using fwi of wide-angle obs data with graph-space optimal transport misfit function. *Acta Geologica Sinica-English edition*, 91(S1):11–14
    - 33. Kamath, N., Brossier, R., Métivier, L., Pladys, A., and Yang, P. (2021). Multiparameter full-waveform inversion of 3D ocean-bottom cable data from the Valhall field. *Geophysics*, 86(1):B15–B35
    - 34. Pladys, A., Brossier, R., Li, Y., and Métivier, L. (2021). On cycle-skipping and misfit function modification for full-wave inversion: Comparison of five recent approaches. *Geophysics*, 86(4):R563–R587
  - 2020
    - 35. Li, Y., Brossier, R., and Métivier, L. (2020a). 3D frequency-domain elastic wave modeling with spectral-element method using a massively parallel direct solver. *Geophysics*, 85(2):T71–T88
  - 2019
    - 36. Halpern, L., Métivier, L., Rauch, J., and Ryan, J. (2019). Nobody’s perfect; matched layers for heterogeneous media. *SIAM Journal on Scientific Computing*, 41(1):A1–A25
    - 37. He, W., Brossier, R., Métivier, L., and Plessix, R.-É. (2019b). Land seismic multi-parameter full waveform inversion in elastic VTI media by simultaneously interpreting body waves and surface waves with an optimal transport based objective function. *Geophysical Journal International*, 219(3):1970–1988
    - 38. Hedjazian, N., Bodin, T., and Métivier, L. (2019). An optimal transport approach to linearized inversion of receiver functions. *Geophysical Journal International*, 216(1):130–147
    - 39. Le Bouteiller, P., Benjema, M., Métivier, L., and Virieux, J. (2019). A discontinuous Galerkin fast-sweeping Eikonal solver for fast and accurate traveltime computation in 3D tilted anisotropic media. *Geophysics*, 84(2):C107–C118
    - 40. Métivier, L., Brossier, R., Mériqot, Q., and Oudet, E. (2019a). A graph space optimal transport distance as a generalization of  $L^p$  distances: application to a seismic imaging inverse problem. *Inverse Problems*, 35(8):085001
    - 41. Thurin, J., Brossier, R., and Métivier, L. (2019a). Ensemble-based uncertainty estimation in full waveform inversion. *Geophysical Journal International*, 219(3):1613–1635
    - 42. Trinh, P. T., Brossier, R., Métivier, L., Tavard, L., and Virieux, J. (2019b). Efficient 3D time-domain elastic and viscoelastic Full Waveform Inversion using a spectral-element method on flexible Cartesian-based mesh. *Geophysics*, 84(1):R75–R97
  - 2018
    - 43. Capdeville, Y. and Métivier, L. (2018). Elastic full waveform inversion based on the homogenization method: theoretical framework and 2-D numerical illustrations. *Geophysical Journal International*, 213(2):1093–1112

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- 44. Le Bouteiller, P., Benjemaa, M., Métivier, L., and Virieux, J. (2018). An accurate discontinuous Galerkin method for solving point-source Eikonal equation in 2-D heterogeneous anisotropic media. *Geophysical Journal International*, 212(3):1498–1522
  - 45. Métivier, L., Allain, A., Brossier, R., Méridot, Q., Oudet, E., and Virieux, J. (2018). Optimal transport for mitigating cycle skipping in full waveform inversion: a graph space transform approach. *Geophysics*, 83(5):R515–R540
  - 46. Sánchez-Reyes, H., Tago, J., Métivier, L., Cruz-Atienza, V., and Virieux, J. (2018). An evolutive linear kinematic source inversion. *Journal of Geophysical Research: Solid Earth*, 123
  - 47. Yang, P., Brossier, R., Métivier, L., Virieux, J., and Zhou, W. (2018b). A Time-Domain Pre-conditioned Truncated Newton Approach to Multiparameter Visco-acoustic Full Waveform Inversion. *SIAM Journal on Scientific Computing*, 40(4):B1101–B1130
  - 2017
    - 48. Brossier, R., Métivier, L., Virieux, J., Yang, P., and Zhou, W. (2017). A review of some methodological developments on full waveform inversion tackled in the seismology group. *Geophysical Prospecting for Petroleum*, 56(1):3
    - 49. Métivier, L., Brossier, R., Operto, S., and J., V. (2017). Full waveform inversion and the truncated Newton method. *SIAM Review*, 59(1):153–195
    - 50. Moreau, L., Brossier, R., and Métivier, L. (2017). Imaging challenging media by full waveform inversion of ultrasonic signals. *The Journal of the Acoustical Society of America*, 141(5):3829–3829
    - 51. Trinh, P. T., Brossier, R., Métivier, L., Virieux, J., and Wellington, P. (2017b). Bessel smoothing filter for spectral element mesh. *Geophysical Journal International*, 209(3):1489–1512
    - 52. Virieux, J., Asnaashari, A., Brossier, R., Métivier, L., Ribodetti, A., and Zhou, W. (2017). An introduction to Full Waveform Inversion. In Grechka, V. and Wapenaar, K., editors, *Encyclopedia of Exploration Geophysics*, pages R1–1–R1–40. Society of Exploration Geophysics
  - 2016
    - 53. Amestoy, P., Brossier, R., Buttari, A., L’Excellent, J.-Y., Mary, T., Métivier, L., Miniussi, A., and Operto, S. (2016). Fast 3D frequency-domain full waveform inversion with a parallel Block Low-Rank multifrontal direct solver: application to OBC data from the North Sea. *Geophysics*, 81(6):R363 – R383
    - 54. Dupuy, B., Asnaashari, A., Brossier, R., Garambois, S., Métivier, L., Ribodetti, A., and Virieux, J. (2016). A downscaling strategy from FWI to microscale reservoir properties from high-resolution images. *The Leading Edge*, 35:1146–150
    - 55. Li, Y., Han, B., Métivier, L., and Brossier, R. (2016). Optimal fourth-order staggered-grid finite-difference scheme for 3D frequency-domain viscoelastic wave modeling. *Journal of Computational Physics*, 321:1055–1078
    - 56. Métivier, L., Brossier, R., Méridot, Q., Oudet, E., and Virieux, J. (2016a). Increasing the robustness and applicability of full waveform inversion: an optimal transport distance strategy. *The Leading Edge*, 35(12):1060–1067
    - 57. Métivier, L., Brossier, R., Méridot, Q., Oudet, E., and Virieux, J. (2016c). An optimal transport approach for seismic tomography: Application to 3D full waveform inversion. *Inverse Problems*, 32(11):115008
    - 58. Métivier, L., Brossier, R., Méridot, Q., Oudet, E., and Virieux, J. (2016b). Measuring the misfit between seismograms using an optimal transport distance: Application to full waveform inversion. *Geophysical Journal International*, 205:345–377
    - 59. Virieux, J., Brossier, R., Métivier, L., Operto, S., and Ribodetti, A. (2016). Direct and indirect inversions. *Journal of Seismology*, 20:1107–1121

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- 60. Yang, P., Brossier, R., Métivier, L., and Virieux, J. (2016c). Wavefield reconstruction in attenuating media: A checkpointing-assisted reverse-forward simulation method. *Geophysics*, 81(6):R349–R362
  - 61. Yang, P., Brossier, R., Métivier, L., and Virieux, J. (2016b). A review on the systematic formulation of 3D multiparameter full waveform inversion in viscoelastic medium. *Geophysical Journal International*, 207(1):129–149
  - 2015
    - 62. Castellanos, C., Métivier, L., Operto, S., Brossier, R., and Virieux, J. (2015). Fast full waveform inversion with source encoding and second-order optimization methods. *Geophysical Journal International*, 200(2):720–744
    - 63. Lavoué, F., Brossier, R., Métivier, L., Operto, S., Garambois, S., and Virieux, J. (2015). Frequency-domain modelling and inversion of electromagnetic data for 2d permittivity and conductivity imaging: An application to the institut fresnel experimental data. *Near Surface Geophysics*, 13(3):227–241
    - 64. Li, Y., Métivier, L., Brossier, R., Han, B., and Virieux, J. (2015). 2D and 3D frequency-domain elastic wave modeling in complex media with a parallel iterative solver. *Geophysics*, 80(3):T101–T118
    - 65. Métivier, L. and Brossier, R. (2016). The SEISCOPE optimization toolbox: A large-scale nonlinear optimization library based on reverse communication. *Geophysics*, 81(2):F11–F25
    - 66. Métivier, L., Brossier, R., and Virieux, J. (2015c). Combining asymptotic linearized inversion and full waveform inversion. *Geophysical Journal International*, 201(3):1682–1703
    - 67. Operto, S., Miniussi, A., Brossier, R., Combe, L., Métivier, L., Monteiller, V., Ribodetti, A., and Virieux, J. (2015b). Efficient 3-D frequency-domain mono-parameter full-waveform inversion of ocean-bottom cable data: application to Valhall in the visco-acoustic vertical transverse isotropic approximation. *Geophysical Journal International*, 202(2):1362–1391
  - 2014
    - 68. Lavoué, F., Brossier, R., Métivier, L., Garambois, S., and Virieux, J. (2014). Two-dimensional permittivity and conductivity imaging by full waveform inversion of multioffset GPR data: a frequency-domain quasi-Newton approach. *Geophysical Journal International*, 197(1):248–268
    - 69. Métivier, L., Brossier, R., Labbé, S., Operto, S., and Virieux, J. (2014c). Smart: dissipative absorbing layer technique for general elastodynamics equations. application as s-waves filter in acoustic media. *Seismic Technology*, 11(4):14
    - 70. Métivier, L., Brossier, R., Labbé, S., Operto, S., and Virieux, J. (2014b). A robust absorbing layer for anisotropic seismic wave modeling. *Journal of Computational Physics*, 279:218–240
    - 71. Métivier, L., Bretaudeau, F., Brossier, R., Operto, S., and Virieux, J. (2014a). Full waveform inversion and the truncated Newton method: quantitative imaging of complex subsurface structures. *Geophysical Prospecting*, 62:1353–1375
    - 72. Operto, S., Brossier, R., Combe, L., Métivier, L., Ribodetti, A., and Virieux, J. (2014a). Computationally-efficient three-dimensional visco-acoustic finite-difference frequency-domain seismic modeling in vertical transversely isotropic media with sparse direct solver. *Geophysics*, 79(5):T257–T275
    - 73. Tago, J., Métivier, L., and Virieux, J. (2014). SMART layers: a simple and robust alternative to PML approaches for elastodynamics. *Geophysical Journal International*, 199(2):700–706
  - 2013
    - 74. Métivier, L., Brossier, R., Virieux, J., and Operto, S. (2013). Full Waveform Inversion and the truncated Newton method. *SIAM Journal On Scientific Computing*, 35(2):B401–B437
    - 75. Operto, S., Brossier, R., Gholami, Y., Métivier, L., Prieux, V., Ribodetti, A., and Virieux, J. (2013). A guided tour of multiparameter full waveform inversion for multicomponent data: from theory to practice. *The Leading Edge*, 32(9):1040–1054

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- 2012

76. Asnaashari, A., Brossier, R., Castellanos, C., Dupuy, B., Etienne, V., Gholami, Y., Hu, G., Métivier, L., Operto, S., Pageot, D., Prieux, V., Ribodetti, A., Roques, A., and Virieux, J. (2012). Hierarchical approach of seismic full waveform inversion. *Numerical Analysis and Applications*, 5(2):99–108
77. Métivier, L. and Montarnal, P. (2012). Strategies for solving index one dae with non-negative constraints: Application to liquid–liquid extraction. *Journal of Computational Physics*, 231(7):2945–2962
78. Métivier, L. and Roussel, H. (2012). Accounting robustly for instantaneous chemical equilibria in reactive transport: a numerical method and its application to liquid–liquid extraction modeling. *Computers & Chemical Engineering*, 45:50–61

- 2011

79. Langouët, H., Métivier, L., Sinoquet, D., and Tran, Q.-H. (2011). Engine calibration: multi-objective constrained optimization of engine maps. *Optimization and Engineering*, 12(3):407–424
80. Métivier, L., Lailly, P., Delprat-Jannaud, F., and Halpern, L. (2011). A 2D nonlinear inversion of well-seismic data. *Inverse Problems*, 27(5):055005
81. Métivier, L. (2011). Interlocked optimization and fast gradient algorithm for a seismic inverse problem. *Journal of Computational Physics*, 230(19):7502–7518

- 2009

82. Métivier, L. (2009). Utilisation des équations Euler-PML en milieu hétérogène borné pour la résolution d’un problème inverse en géophysique. *ESAIM: Proc.*, 27:156–170

## Chapitres de livre

- 2018

1. Métivier, L., Allain, A., Brossier, R., Mérigot, Q., Oudet, E., and Virieux, J. (2018). On the use of optimal transport distances for a pde-constrained optimization problem in seismic imaging. In Antil, H., Kouri, D. P., Lacasse, M.-D., and Ridzal, D., editors, *Frontiers in PDE-Constrained Optimization*, pages 377–397, New York, NY. Springer New York

## Brevets

- 2010

1. Delprat-jannaud, F., Lailly, P., and Metivier, L. (2010). Method for imaging a target area of the subsoil using walkaway data. EP Patent 2,253,970

## Abstracts étendus dans des conférences internationales avec comité de lecture

- 2025

1. Benziane, M., Brossier, R., and Metivier, L. (2025). Time-dependent receiver extension for fwi: A dynamic programming approach. 2025(1):1–5
2. Grange, A., Brossier, R., Métivier, L., and Roux, P. (2025). Glacier structure and icequakes characterization at argentière using fwi. In *86th EAGE Annual Conference & Exhibition*, pages 1–5. European Association of Geoscientists & Engineers

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3. Marchner, P., Brossier, R., and Métivier, L. (2025). Towards a unified view of uncertainty quantification methods for full waveform inversion. In *86th EAGE Annual Conference & Exhibition*, pages 1–5. European Association of Geoscientists & Engineers
  4. Schuster, D., Métivier, L., and Brossier, R. (2025). Seis\_orc: The seismoscope workflow orchestrator for performing disaggregated fwi on hpc systems. In *86th EAGE Annual Conference & Exhibition*, pages 1–5. European Association of Geoscientists & Engineers
- 2024
    5. Abdellaziz, A., Brossier, R., Métivier, L., and Oudet, E. (2024a). 3d seismic acquisition geometry optimization based on wavenumber sampling regularity for target-oriented full waveform inversion. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    6. Benziane, M., Brossier, R., Métivier, L., and Sambolian, S. (2024). Full-waveform inversion with time-dependent receiver-extension: An efficient inner loop optimization. In *Fourth International Meeting for Applied Geoscience & Energy*, pages 1038–1042
    7. Fachtony, F., Brossier, R., and Métivier, L. (2024). 4D FWI with reflection oriented workflow: application to CO<sub>2</sub> monitoring at Sleipner field. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    8. Grange, A., Brossier, R., Métivier, L., Roux, P., and Thurin, J. (2024). Argentièrre glacier characterization by full waveforms: source inversion as a preliminary step. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    9. Hoffmann, A., Métivier, L., Brossier, R., and Tarayoun, A. (2024b). Uncertainty quantification for 3D FWI at an operational level: an Ensemble Transform Kalman Filter approach. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    10. Métivier, L., Brossier, R., Sambolian, S., and Tarayoun, A. (2024b). Multi-parameter FWI of broadband data: beyond high resolution images. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    11. Métivier, L. and Brossier, R. (2024). A unified mathematical framework to extension and convexification methods for full waveform inversion. In *85th EAGE Annual Conference & Exhibition, Workshop 13: Status and challenges of extended domain FWI*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    12. Provenzano, G., Bièvre, G., Brossier, R., Garambois, S., and Métivier, L. (2024a). Towards wave-equation ambient noise tomography of a landslide: The harmalière case study. In *Fourth International Meeting for Applied Geoscience & Energy*, pages 1632–1636
    13. Schuster, D., Brossier, R., Métivier, L., and Tarayoun, A. (2024). On the efficient use of HPC ressources: Disaggregation of the full waveform inversion algorithm. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
    14. Yong, P., Provenzano, G., Brossier, R., and Métivier, L. (2024b). Velocity model building by localized adaptive waveform inversion of early arrivals and reflections. In *85nd EAGE Annual Conference & Exhibition*, volume 2024, pages 1–5. European Association of Geoscientists & Engineers
  - 2023
    15. Abdellaziz, A., Brossier, R., Métivier, L., and Oudet, E. (2023). Optimal Experimental Design in Full Waveform Inversion. In *84<sup>th</sup> Annual EAGE Meeting (Vienna)*, volume 2023. European Association of Geoscientists & Engineers
    16. Benziane, M., Brossier, R., and Métivier, L. (2023). Receiver extension strategy using a time-dependent relocation approach for time-domain fwi. In *84th EAGE Annual Conference & Exhibition*, volume 2023, pages 1–5. European Association of Geoscientists & Engineers

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17. Cao, J., Brossier, R., and Métivier, L. (2023). A fully scalable 3D non-periodic homogenization method to upscale elastic media. In *84<sup>th</sup> Annual EAGE Meeting (Vienna)*, volume 2023. European Association of Geoscientists & Engineers
  18. Fachtony, F., Brossier, R., Dupuy, B., Métivier, L., and Romdhane, A. (2023). 4D FWI with Short Offset Data: a Reflection Oriented Approach. In *84<sup>th</sup> Annual EAGE Meeting (Vienna)*, volume 2023. European Association of Geoscientists & Engineers
  19. Métivier, L., Brossier, R., Hoffmann, A., Mirebeau, J., Provenzano, G., Tarayoun, A., and Yong, P. (2023). Anisotropic diffusion filter for 3D full waveform inversion: application to a North Sea dataset. In *84<sup>th</sup> Annual EAGE Meeting (Vienna)*, volume 2023. European Association of Geoscientists & Engineers
  20. Sambolian, S., Brossier, R., and Métivier, L. (2023). Time-domain FWI of full azimuth OBN data from offshore North West Australia. In *84<sup>th</sup> Annual EAGE Meeting (Vienna)*, volume 2023. European Association of Geoscientists & Engineers
  - 2022
    21. Cao, J., Brossier, R., and Métivier, L. (2022c). Elastic full-waveform inversion of 4c ocean-bottom seismic data: Model parameterization analysis. In *Second International Meeting for Applied Geoscience & Energy*, pages 957–961
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