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LIST OF PUBLICATIONS\*

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Centre for Materials P.-M. Fourt, Mines Paris PSL,  
63–65 rue Henry Desbrières, BP 87, 91003 Évry, France.

## 1 Journal articles

- [J1] É. Kaeshammer, S. Belon, L. Borne, F. Willot, and P. Dokládal. “Dynamics simulations of RDX-based explosive materials during impact: role of the microstructure”. In: *Shock Waves* (2025).
- [J2] L. Monteiro Fernandes, S. Blusseau, P. Rieder, M. Neumann, V. Schmidt, H. Proudhon, and F. Willot. “A physics-informed 3D surrogate model for elastic fields in polycrystals”. In: *Computer Methods in Applied Mechanics and Engineering* (2025). Submitted.
- [J3] F. Rabette, H. Trumel, and F. Willot. “Phase field modeling of thermally-induced microcracking in a TATB-based energetic material”. In: *Computational Material Science* (2025). To be submitted.
- [J4] S. Schäfer, F. Willot, M. N. Rad, S. T. Kelly, D. Enke, and J. Martins de Souza e Silva. “Intermittent in-situ high-resolution X-ray microscopy of 400-nm porous glass under uniaxial compression: study of pore changes and crack formation”. In: *Scripta Materialia* 255 (2025). arXiv preprint: 2307.01611, p. 116396. DOI: [10.1016/j.scriptamat.2024.116396](https://doi.org/10.1016/j.scriptamat.2024.116396). Hal: [hal-04385906](https://hal.archives-ouvertes.fr/hal-04385906).
- [J5] C. Thouénon, A. Dubois, J. Besson, and F. Willot. “Statistical modeling and generation of inertial ductile fracture surfaces”. In: *J. of the Mechanics and Physics of Solids, Special issue in honor of P. Ponte* (2025). To be submitted.
- [J6] F. Willot. “Cross-over behavior in periodic composites under plane strain and anti-plane shear”. In: (2025). To be submitted. Online at <https://hal.archives-ouvertes.fr/tel-00134643> (Chap. 7).
- [J7] F. Willot. “Homogenized metrics in planar, multiscale random sets”. In: (2025). To be submitted. Online at <https://hal.archives-ouvertes.fr/tel-00134643> (Chap. 6).

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- [J8] F. Willot and E. Cherkaev. “The nonlinear conductivity of a periodic array of cylinders: effective response, localization patterns and minimal paths”. In: *Proc. of the Roy. Soc. A* (2025). Submitted.
- [J9] F. Willot and M. I. Idiart. “Effective conductivity of a nonlinear differential laminate assemblage”. In: *Proceedings of the Royal Society A* (2025). DOI: [hal-04386013](#).
- [J10] M. Mohammadi, S. Velasco-Forero, F. Willot, M. Sangalli, and J. Angulo. “Choquet Capacity networks for random point process classification and regression”. In: 457 (2024). 14<sup>rd</sup> International Symposium on Continuum Models and Discrete Systems, Paris, June 26–30, 2023, pp. 229–241. DOI: [10.1007/978-3-031-58665-1\\_18](#). Hal: [hal-04250560](#).
- [J11] L. Monteiro Fernandes, P. Rieder, M. Neumann, H. Proudhon, V. Schmidt, and F. Willot. “Effect of crystallographic twins on the elasto-plastic response of polycrystals”. In: *Proceedings in Mathematics and Statistics* 457 (2024). Proceedings of the 14<sup>th</sup> conference on Continuous Models and Discrete Systems, Paris, June 26–30, pp. 89–103. DOI: [10.1007/978-3-031-58665-1\\_7](#). Hal: [hal-04385959](#).
- [J12] P. Rieder, M. Neumann, L. Monteiro Fernandes, A. Mullard, H. Proudhon, F. Willot, and V. Schmidt. “Stochastic microstructure modeling of twinned polycrystals for investigating the mechanical behavior of  $\gamma$ -TiAl intermetallics”. In: *Journal of Computational Material Science* 238 (2024). arXiv pre-print cond-mat.mtrl-sci 2401.08349, p. 112922. DOI: [10.1016/j.commatsci.2024.112922](#). Hal: [hal-04803649](#).
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- [J17] S. Belon, É Kaeshammer, F. Willot, P. Dokladal, and L. Borne. “Analyse et génération de microstructures numériques d’explosifs”. In: *Chocs* 51 (2021), p. 48. Hal: [hal-03891348](#).
- [J18] B. Figliuzzi, A. Montaux-Lambert, F. Willot, G. Naudin, P. Dupuis, B. Querleux, and É. Huguet. “A Bayesian approach to morphological models characterization”. In: *Image Analysis & Stereology* 40.2 (2021), pp. 171–180. DOI: [10.5566/ias.2641](#). Hal: [hal-03510046](#).

- [J19] É. Kaeshammer, L. Borne, F. Willot, P. Dokládal, and S. Belon. “Morphological characterization and elastic response of a granular material”. In: *Computational Material Science* 190 (2021), p. 110247. DOI: [10.1016/j.commatsci.2020.110247](https://doi.org/10.1016/j.commatsci.2020.110247). Hal: [hal-03115043](https://hal.archives-ouvertes.fr/hal-03115043).
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