

List of publications

- 2022 P. Grigorev et al. *Synergistic coupling in ab initio-machine learning simulations of dislocations*. Mar. 2022. arXiv: 2111.11262 [under review at Acta Materialia].
- V. Grigorev et al. *Optically-triggered strain-driven Néel vector manipulation in a metallic antiferromagnet*. 2022. arXiv: 2205.05411.
- 2021 A. M. Goryaeva et al. "Efficient and transferable machine learning potentials for the simulation of crystal defects in bcc Fe and W". In: *Phys. Rev. Materials* 5 (10 Oct. 2021), p. 103803.
- 2020 P. Grigorev, T. D. Swinburne, and J. R. Kermode. "Hybrid quantum/classical study of hydrogen-decorated screw dislocations in tungsten: Ultrafast pipe diffusion, core reconstruction, and effects on glide mechanism". In: *Phys. Rev. Materials* 4 (2 Feb. 2020), p. 023601.
- 2018 P. Grigorev et al. "Molecular dynamics simulation of hydrogen and helium trapping in tungsten". In: *Journal of Nuclear Materials* 508 (2018), pp. 451–458.
- 2017 A. Bakaev et al. "Trapping of hydrogen and helium at dislocations in tungsten: an ab initio study". In: *Nuclear Fusion* 57.12 (2017), p. 126040.
- A. Bakaev et al. "Ab initio study of interaction of helium with edge and screw dislocations in tungsten". In: *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 393 (2017), pp. 150–154.
- P. Grigorev et al. "Interaction of hydrogen and helium with nanometric dislocation loops in tungsten assessed by atomistic calculations". In: *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 393 (2017), pp. 164–168.
- 2016 A. Bakaeva et al. "Dislocation-mediated trapping of deuterium in tungsten under high-flux high-temperature exposures". In: *Journal of Nuclear Materials* 479 (2016), pp. 307–315.
- P. Grigorev et al. "Numerical analysis of TDS spectra under high and low flux plasma exposure conditions". In: *Physica Scripta* 2016.T167 (2016), p. 014039.
- P. Y. Grigorev et al. "Classical molecular dynamics simulation of the interaction of hydrogen with defects in tungsten". In: *Journal of Surface Investigation* 10.2 (2016), pp. 398–405.
- P. Grigorev et al. "Mobility of hydrogen-helium clusters in tungsten studied by molecular dynamics". In: *Journal of Nuclear Materials* 474 (2016), pp. 143–149.
- P. Grigorev et al. "Modelling deuterium release from tungsten after high flux high temperature deuterium plasma exposure". In: *Journal of Nuclear Materials* 481 (2016), pp. 181–189.

- 2015 P. Y. Grigorev et al. "Interaction of hydrogen with dislocations and grain boundaries in Tungsten". In: *Journal of Surface Investigation* 9.6 (2015), pp. 1287–1292.
- P. Grigorev et al. "Interaction of hydrogen with dislocations in tungsten: An atomistic study". In: *Journal of Nuclear Materials* 465 (2015), pp. 364–372.
- P. Grigorev et al. "Nucleation and growth of hydrogen bubbles on dislocations in tungsten under high flux low energy plasma exposure". In: *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 352.0 (2015), pp. 96–99.
- 2014 A. V. Bakaev et al. "Atomistic simulation of the interaction between mobile edge dislocations and radiation-induced defects in Fe-Ni-Cr austenitic alloys". In: *Journal of Surface Investigation* 8.2 (2014), pp. 220–228.
- G. Bonny et al. "Many-body central force potentials for tungsten". In: *Modelling and Simulation in Materials Science and Engineering* 22.5 (2014), p. 053001.
- G. Bonny, P. Grigorev, and D. Terentyev. "On the binding of nanometric hydrogen–helium clusters in tungsten". In: *Journal of Physics: Condensed Matter* 26.48 (2014), p. 485001.
- V. I. Dubinko et al. "Dislocation mechanism of deuterium retention in tungsten under plasma implantation". In: *Journal of Physics: Condensed Matter* 26.39 (2014), p. 395001.
- P. Y. Grigorev et al. "Deuterium accumulation in tungsten under low-energy high-flux plasma exposure". In: *Journal of Surface Investigation. X-ray, Synchrotron and Neutron Techniques* 8.2 (2014), pp. 234–238.
- D. Terentyev et al. "Dislocations mediate hydrogen retention in tungsten". In: *Nuclear Fusion* 54.4 (2014), p. 042004.
- 2013 V. I. Dubinko et al. "Dislocation mechanism of deuterium trapping and transport in tungsten under sub-threshold plasma implantation". In: *Letters on materials* 3 (2013), p. 5.
- D. Terentyev, G. Monnet, and P. Grigorev. "Transfer of molecular dynamics data to dislocation dynamics to assess dislocation–dislocation loop interaction in iron". In: *Scripta Materialia* 69.8 (2013), pp. 578–581.
- E. E. Zhurkin and P. Y. Grigorev. "Sputtering of Al nanoclusters by 1–13 keV monatomic or polyatomic ions studied by Molecular Dynamics simulations". In: *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 303.0 (2013), pp. 136–141.