

Jun. Prof. Dr. Nina Merkert (née Gunkelmann)

Publications

1. I. A. Alhafez, O. R. Deluigi, D. Tramontina, N. Merkert, H. M. Urbassek, E. M. Bringa. Nanoindentation into a bcc high-entropy HfNbTaTiZr alloy – an atomistic study of the effect of short-range order. *Sci. Rep.*, accepted, 2024.
2. D. Thürmer, H.-T. Luu, N. Merkert. Molecular dynamics simulation of shock waves in Fe and Fe-C: Influence of system characteristics. *J. Appl. Phys.* 135:155901, 2024.
3. L. Hahn, S. A. Blaue, P. Höhn, N. Merkert, P. Klein. Open Educational Resources für den Hochschulbereich. In *PhyDid B, Didaktik der Physik, Beiträge zur virtuellen DPG-Frühjahrstagung*. Ed: H. Grötzebauch, S. Heinicke, 2023.
4. A. Demirci, D. Steinberger, M. Stricker, N. Merkert, D. Weygand, S. Sandfeld. Statistical analysis of discrete dislocation dynamics simulations: initial structures, cross-slip and microstructure evolutions. *MSMSE* 31:075003, 2023.
5. G.S. Dutta, D. Meiners, N. Merkert. A Study of Free-Form Shape Rationalization Using Biomimicry as Inspiration. *Polymers* 15:2466, 2023.
6. S. Raumel, K. Barianti, H.-T. Luu, N. Merkert, F. Dencker, F. Nürnberger, H.J. Maier, M. C. Wurz. Characterization of the tribologically relevant cover layers formed on copper in oxygen and oxygen-free conditions. *Friction*, DOI: 10.1007/s40544-022-0695-5, 2023.
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9. D. Thürmer, N. Gunkelmann. Shock-induced spallation in a nanocrystalline high-entropy alloy: An atomistic study. *J. Appl. Phys.* 131:065902, 2022.
10. D. Thürmer, S. Zhao, O. R. Deluigi, C. Stan, I. A. Alhafez, H. M. Urbassek, M. A. Meyers, E. M. Bringa, N. Gunkelmann. Exceptionally high spallation strength for a high-entropy alloy demonstrated by experiments and simulations. *J. Alloys Compd.* 895:162567, 2022.
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12. H. Song, N. Gunkelmann, G. Po, S. Sandfeld. Data-mining of dislocation microstructures: concepts for coarse-graining of internal energies. *MSMSE* 29:035005, 2021.
13. H.-T. Luu, S.-L. Dang, T.-V. Hoang, N. Gunkelmann. Molecular dynamics simulation of nanoindentation in Al and Fe: On the influence of system characteristics. *Appl. Surf. Science* 551:149221, 2021.

14. K. C. Le, S. L. Dang, H.-T. Luu, N. Gunkelmann. Thermodynamic dislocation theory: Application to bcc-crystals. *MSMSE* 29(1): 015003, 2020.
15. H.-T. Luu, R. J. Ravelo, M. Rudolph, E. M. Bringa, T. C. Germann, D. Rafaja, N. Gunkelmann. Shock-induced plasticity in nanocrystalline iron: Large-scale molecular dynamics simulations. *Phys. Rev. B* 102:020102(R), 2020.
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19. N. Gunkelmann, M. Baum (Eds.) *Simulation Science, Second International Workshop, SimScience 2019 Communications in Computer and Information Science (CCIS) 1199*: 153, Springer, Cham, 2020.
20. H.-T. Luu, R. G. A. Veiga, N. Gunkelmann. Atomistic Study of the Role of Defects on $\alpha \rightarrow \epsilon$ Phase Transformations in Iron under Hydrostatic Compression. *Metals* 9(10):1040, 2019, **Journal issue cover image, Volume 9, Issue 10**.
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