

## Wolfgang E. Ernst, publications on nanoparticles (metals, oxides etc.)

1. Martin Ratschek, Markus Koch, and Wolfgang E. Ernst, Doping helium nanodroplets with high temperature metals: formation of chromium clusters, *J. Chem. Phys.* **136**, 104201-1-6 (2012), <http://dx.doi.org/10.1063/1.3692330>.
2. Alexander Volk, Philipp Thaler, Markus Koch, Evelin Fisslthaler, Werner Grogger, and Wolfgang E. Ernst, High resolution electron microscopy of Ag-clusters in crystalline and non-crystalline morphologies grown inside superfluid helium nanodroplets, *J. Chem. Phys.* **138**, 214312-1-7 (2013), <http://dx.doi.org/10.1063/1.4807843>.
3. Philipp Thaler, Alexander Volk, Martin Ratschek, Markus Koch, and Wolfgang E. Ernst, Molecular dynamics simulation of the deposition process of cold Ag-clusters under different landing conditions, *J. Chem. Phys.* **140**, 044326-1-9 (2014), <http://dx.doi.org/10.1063/1.4862917>.
4. Philipp Thaler, Alexander Volk, Florian Lackner, Johannes Steurer, Daniel Knez, Werner Grogger, Ferdinand Hofer, and Wolfgang E. Ernst, Formation of core-shell nanowires along vortices in superfluid He nanodroplets, *Phys. Rev. B* **90**, 155442-1-5 (2014) <http://link.aps.org/doi/10.1103/PhysRevB.90.155442>.
5. Andreas W. Hauser, Alexander Volk, Philipp Thaler and Wolfgang E. Ernst, Atomic collisions in suprafluid helium-nanodroplets: Timescales for metal-cluster formation derived from He-density functional theory, *PCCP* **17**, 10805-10812 (2015), <http://dx.doi.org/10.1039/c5cp01110h>.
6. Alexander Volk, Daniel Knez, Philipp Thaler, Andreas W. Hauser, Werner Grogger, Ferdinand Hofer and Wolfgang E. Ernst, Thermal instabilities and Rayleigh breakup of ultrathin silver nanowires grown in helium nanodroplets, *PCCP* **17**, 24570-24575 (2015), <http://dx.doi.org/10.1039/C5CP04696C>.
7. Philipp Thaler, Alexander Volk, Daniel Knez, Florian Lackner, Johannes Steurer, Martin Schnedlitz, and Wolfgang E. Ernst, Synthesis of Nanoparticles in Helium Droplets - a Characterization Comparing Mass-Spectra and Electron Microscopy Data, *J. Chem. Phys.* **143**, 134201-1-10 (2015), <http://dx.doi.org/10.1063/1.4932182>.
8. Georg Haberfehlner, Philipp Thaler, Daniel Knez, Alexander Volk, Ferdinand Hofer, Wolfgang E. Ernst, Gerald Kothleitner, Formation of bimetallic clusters in superfluid helium nanodroplets analyzed by atomic resolution electron tomography, *Nature Communications* **6**, 8779-1-6 (2015), <http://www.nature.com/ncomms/2015/151028/ncomms9779/full/ncomms9779.html>.
9. Alexander Volk, Philipp Thaler, Daniel Knez, Andreas W. Hauser, Johannes Steurer, Werner Grogger, Ferdinand Hofer, and Wolfgang E. Ernst, The impact of doping rates on the morphologies of silver and gold nanowires grown in helium nanodroplets, *PCCP* **18**, 1451-1459 (2016), <http://dx.doi.org/10.1039/C5CP06248A>, with a correction in *PCCP* **18**, 3359 (2016), <http://dx.doi.org/10.1039/C5CP90229K>.
10. Daniel Knez, Philipp Thaler, Alexander Volk, Gerald Kothleitner, Wolfgang E. Ernst, and Ferdinand Hofer, Transformation dynamics of Ni clusters into NiO rings under electron beam irradiation, *Ultramicroscopy* **176**, 105–111 (2017), <https://doi.org/10.1016/j.ultramic.2017.03.027>.

11. Martin Schnedlitz, Maximilian Lasserus, Daniel Knez, Andreas W. Hauser, Ferdinand Hofer and Wolfgang E. Ernst, Thermally induced breakup of metallic nanowires: Experiment and theory, *PCCP* **19**, 9402-9408 (2017), <http://dx.doi.org/10.1039/C7CP00463J> .
12. Andreas W. Hauser, Martin Schnedlitz, and Wolfgang E. Ernst, A coarse-grained Monte Carlo approach to diffusion processes in metallic nanoparticles, *Eur. Phys. J. D* **71**, 150-1-8 (2017), special issue "Dynamics of systems at the nanoscale", <http://dx.doi.org/10.1140/epjd/e2017-80084-y> .
13. Maximilian Lasserus, Martin Schnedlitz, Daniel Knez, Roman Messner, Alexander Schiffmann, Florian Lackner, Andreas W. Hauser, Ferdinand Hofer, and Wolfgang E. Ernst, Thermally induced alloying processes in a bimetallic system at the nanoscale: AgAu sub-5 nm core-shell particles studied at atomic resolution, *Nanoscale* **10**, 2017-2024 (2018), <http://pubs.rsc.org/en/content/articlehtml/2018/nr/c7nr07286d> .
14. Martin Schnedlitz, Maximilian Lasserus, Ralf Meyer, Daniel Knez, Ferdinand Hofer, Wolfgang E. Ernst, and Andreas W. Hauser, On the stability of core-shell nanoparticles for catalysis at elevated temperatures: Structural inversion in the Ni-Au system observed at atomic resolution, *ACS Chemistry of Materials* **30**, 1113-1120 (2018), <http://pubs.acs.org/doi/10.1021/acs.chemmater.7b05075> .
15. Daniel Knez, Martin Schnedlitz, Maximilian Lasserus, Alexander Schiffmann, Wolfgang E. Ernst, and Ferdinand Hofer, Modelling electron beam induced dynamics in metallic nanoclusters, *Ultramicroscopy* **192**, 69-79 (2018), <https://doi.org/10.1016/j.ultramic.2018.05.007> .
16. Alexander Schiffmann, Daniel Knez, Florian Lackner, Maximilian Lasserus, Roman Messner, Martin Schnedlitz, Gerald Kothleitner, Ferdinand Hofer, and Wolfgang E. Ernst, Ultra-thin h-BN substrates for nanoscale plasmon spectroscopy, *J. Appl. Phys.* **125**, 023104-1-8 (2019), <https://aip.scitation.org/doi/10.1063/1.5064529> .
17. Maximilian Lasserus, Martin Schnedlitz, Roman Messner, Florian Lackner, Wolfgang E. Ernst, and Andreas W. Hauser, Vanadium(V) oxide clusters synthesized by sublimation from bulk at fully inert conditions, *RSC Chemical Science* **10**, 3473-3480 (2019), <http://dx.doi.org/10.1039/C8SC05699D> .
18. Florian Lackner, Alexander Schiffmann, Maximilian Lasserus, Roman Messner, Martin Schnedlitz, Thomas Jauk, Harald Fitzek, Peter Pölt, Daniel Knez, Gerald Kothleitner and Wolfgang E. Ernst, Helium nanodroplet assisted synthesis of bimetallic Ag@Au nanoparticles with tunable localized surface plasmon resonance, *Eur. Phys. J. D* (2019) **73**: 104, <https://doi.org/10.1140/epjd/e2019-90696-8> .
19. Maximilian Lasserus, Daniel Knez, Martin Schnedlitz, Andreas W. Hauser, Ferdinand Hofer, and Wolfgang E. Ernst, On the passivation of iron particles at the nanoscale, *Nanoscale Advances* **1**, 2276-2283 (2019), DOI: 10.1039/C9NA00161A <https://pubs.rsc.org/en/content/articlepdf/2019/NA/C9NA00161A> .
20. Martin Schnedlitz, Ricardo Fernandez-Perea, Daniel Knez, Maximilian Lasserus, Alexander Schiffmann, Ferdinand Hofer, Andreas W. Hauser, MariaPilar de Lara-Castells, and Wolfgang E. Ernst, Effects of the Core Location on the Structural Stability of Ni-Au Core-Shell Nanoparticles, *J. Phys. Chem. C* **123**, 20037-20043 (2019), <https://doi.org/10.1021/acs.jpcc.9b05765> .

21. Daniel Knez, Martin Schnedlitz, Maximilian Lasserus, Andreas W. Hauser, Wolfgang E. Ernst, Ferdinand Hofer, and Gerald Kothleitner, The Impact of Swift Electrons on the Segregation of Ni-Au Nanoalloys, *Appl. Phys. Lett.* **115**, 123103-1-5 (2019), <https://doi.org/10.1063/1.5093472> .
22. Maximilian Lasserus, Daniel Knez, Florian Lackner, Martin Schnedlitz, Roman Messner, Daniel Schennach, Gerald Kothleitner, Ferdinand Hofer, Andreas W. Hauser, and Wolfgang E. Ernst, Synthesis of nanosized vanadium(V) oxide clusters below 10nm, *PCCP* **21**, 21104-21108 (2019) <https://doi.org/10.1039/C9CP04357H> .
23. Alexander Schiffmann, Benjamin W. Toulson, Daniel Knez, Roman Messner, Martin Schnedlitz, Maximilian Lasserus, Ferdinand Hofer, Wolfgang E. Ernst, Oliver Gessner and Florian Lackner, Helium Droplet Mediated Synthesis of CoO Nanowires and their Characterization by Ultrashort XUV Pulse Absorption Spectroscopy, *J. Appl. Phys.* **127**, 184303-1-7 (2020), <https://doi.org/10.1063/5.0004582> .
24. Alexander Schiffmann, Thomas Jauk, Daniel Knez, Harald Fitzek, Ferdinand Hofer, Florian Lackner, and Wolfgang E. Ernst, Helium droplet assisted synthesis of plasmonic Ag@ZnO core@shell nanoparticles, *Nano Research* **13**, 2979–2986 (2020), <https://doi.org/10.1007/s12274-020-2961-z>.
25. Martin Schnedlitz, Daniel Knez, Maximilian Lasserus, Ferdinand Hofer, Ricardo Fernández-Perea, Andreas W. Hauser, María Pilar de Lara-Castells, and Wolfgang E. Ernst, Thermally induced diffusion and restructuring of iron triade (Fe, Co, Ni) nanoparticles passivated by several layers of gold, *J. Phys. Chem. C* **124**, 30, 16680–16688 (2020), <https://doi.org/10.1021/acs.jpcc.0c04561> .
26. Roman Messner, Wolfgang E. Ernst, and Florian Lackner, Shell-Isolated Au Nanoparticles Functionalized with Rhodamine B Fluorophores in Helium Nanodroplets, *J. Phys. Chem. Lett.*, **12**, 145–150 (2021), <http://dx.doi.org/10.1021/acs.jpcclett.0c03399> .
27. Wolfgang E. Ernst and Andreas W. Hauser, Metal Clusters Synthesized in Helium Droplets: Structure and Dynamics from Experiment and Theory, invited Perspective Article and selected as part of [2021 PCCP HOT Articles](#), *PCCP* **23**, 7553-7574 (2021), <https://doi.org/10.1039/D0CP04349D> .
28. Roman Messner, Robert di Vora, Wolfgang E. Ernst, and Florian Lackner, Photoabsorption of potassium clusters: From discrete electronic transitions to collective resonances, *Physical Review Research* **4**, 023148-1-11 (2022), <https://journals.aps.org/prresearch/pdf/10.1103/PhysRevResearch.4.023148> .
29. Wolfgang E. Ernst, Maximilian Lasserus, Daniel Knez, Ferdinand Hofer, and Andreas W. Hauser, Mixed-metal Nanoparticles: Phase Transitions and Diffusion in Au-VO Clusters, *Faraday Discussions* (2022), themed collection: [Nanoalloys: recent developments and future perspectives](#), <https://doi.org/10.1039/D2FD00089J> .