

## Wolfgang E. Ernst, atoms and molecules on helium nanodroplets

1. F. Stienkemeier, W. E. Ernst, J. Higgins, and G. Scoles, On the Use of Liquid Helium Cluster Beams for the Preparation and Spectroscopy of the Triplet States of Alkali Dimers and other Weakly Bound Complexes, *J. Chem. Phys.* **102**, 615-617 (1995).
2. F. Stienkemeier, J. Higgins, W. E. Ernst, and G. Scoles, Laser Spectroscopy of Alkali-doped Helium Clusters, *Phys. Rev. Lett.* **74**, 3592-3595 (1995).
3. F. Stienkemeier, J. Higgins, W. E. Ernst and G. Scoles, Spectroscopy of Alkali Atoms and Molecules Attached to Liquid Helium Clusters, *Z. Phys. B***98**, 413-416 (1995).
4. F. Stienkemeier, J. Higgins, C. Callegari, S. I. Kanorsky, W. E. Ernst, and G. Scoles, Spectroscopy of Alkali Atoms (Li, Na, K) Attached to Large Helium Clusters, *Z. Phys. D***38**, 253-263 (1996).
5. J. Higgins, W. E. Ernst, C. Callegari, J. Reho, K. K. Lehmann, G. Scoles and M. Gutowski, Spin Polarized Alkali Clusters: Observation of Quartet States of the Sodium Trimer, *Phys. Rev. Lett.* **77**, 4532-4535 (1996).
6. J. Higgins, C. Callegari, J. Reho, F. Stienkemeier, W. E. Ernst, K. K. Lehmann, M. Gutowski and G. Scoles, Photoinduced Chemical Dynamics of High-Spin Alkali Trimers, *Science* **273**, 629-631 (1996).
7. J. Reho, C. Callegari, J. Higgins, W. E. Ernst, K. K. Lehmann, and G. Scoles, Spin-Orbit Effects in the Formation of the Na-He Excimer on the Surface of He Clusters, in: *Faraday Discussion No. 108 "The Dynamics of Electronically-Excited States in Gaseous, Cluster and Condensed Media"*, 161-174 (1998).
8. J. Higgins, C. Callegari, J. Reho, F. Stienkemeier, W. E. Ernst, M. Gutowski, and G. Scoles, Helium Cluster Isolation Spectroscopy of Alkali Dimers in the Triplet Manifold, **Feature Article** in *J. Phys. Chem. A* **102**, 4952-4965 (1998).
9. F. R. Brühl, R. A. Trasca, and W. E. Ernst, Rb-He Exciplex Formation on Helium Nanodroplets, *J. Chem. Phys.* **115**, 10220-10224 (2001), special issue on "Helium Nanodroplets: A Novel Medium for Chemistry and Physics".
10. F. R. Brühl, R. A. Miron, and W. E. Ernst, Triplet States of Rubidium Dimers on Helium Nanodroplets, *J. Chem. Phys.* **115**, 10275-10281 ((2001), special issue on "Helium Nanodroplets: A Novel Medium for Chemistry and Physics".
11. W. E. Ernst, R. Huber, S. Jiang, R. Beuc, M. Movre, and G. Pichler, Cesium Dimer Spectroscopy on Helium Droplets, *J. Chem. Phys.* **124**, 024313-1 – 6 (2006).
12. O. Allard, J. Nagl, G. Auböck, C. Callegari, and W.E. Ernst, Investigation of KRb and Rb<sub>2</sub> formed on cold helium nanodroplets, *J. Phys. B: At. Mol. Opt. Phys.* **39**, S1169-S1181 (2006).
13. Johann Nagl, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst, Magnetic Dichroism of Potassium Atoms on the Surface of Helium Nanodroplets, *Phys. Rev. Lett.* **98**, 075301-1-4 (2007).
14. Gerald Auböck, Johann Nagl, Carlo Callegari, and Wolfgang E. Ernst, Triplet state excitation of alkali molecules on helium droplets: Experiments and theory, *J. Phys. Chem. A* **111**, 7404-7410 (2007).

15. Johann Nagl, Andreas W. Hauser, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst, Optical Spectroscopy of Potassium-Doped Argon Clusters: Experiments and Quantum Chemistry Calculations, *J. Phys. Chem. A* **111**, 12386-12397 (2007).
16. Johann Nagl, Gerald Auböck, Andreas W. Hauser, Olivier Allard, Carlo Callegari, and Wolfgang E. Ernst, Heteronuclear and Homonuclear High-Spin Alkali Trimers on Helium Nanodroplets, *Phys. Rev. Lett.* **100**, 063001-1-4 (2008).
17. Johann Nagl, Gerald Auböck, Andreas W. Hauser, Olivier Allard, Carlo Callegari, and Wolfgang E. Ernst, High-Spin Alkali Trimers on Helium Nanodroplets – Spectral Separation and Analysis, *J. Chem. Phys.* **128**, 154320-1-8 (2008).
18. Gerald Auböck, Johann Nagl, Carlo Callegari, and Wolfgang E. Ernst, Electron-spin-pumping of Rb atoms on He nanodroplets via non-destructive optical excitation, *Phys. Rev. Lett.* **101**, 035301-1-4(2008).
19. Gerald Auböck, Johann Nagl, Carlo Callegari, and Wolfgang E. Ernst, Observation of Relativistic  $E \otimes e$  Vibronic Coupling in  $Rb_3$  and  $K_3$  Quartet States on Helium Droplets, *J. Chem. Phys.* **129**, 114501-1-9 (2008).
20. Markus Koch, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst, Coherent Spin Manipulation and ESR on Superfluid Helium Nanodroplets, *Phys. Rev. Lett.* **103**, 035302-1-4 (2009).
21. Markus Koch, Johannes Lanzersdorfer, Carlo Callegari, John S. Muentner, and Wolfgang E. Ernst, Molecular beam magnetic resonance in doped helium nanodroplets: A setup for optically-detected ESR/NMR in the presence of unresolved Zeeman splittings, *J. Phys. Chem. A* **113**, 13347-13356 (2009).
22. Gerald Auböck, Mireille Aymar, Olivier Dulieu, and Wolfgang E. Ernst, Reinvestigation of the  $Rb_2$  (2)  $^3\Pi_g - a^3\Sigma_u^+$  Band on Helium Nanodroplets, *J. Chem. Phys.* **132**, 054304-1-7 (2010).
23. Markus Koch, Carlo Callegari, and Wolfgang E. Ernst, Alkali-metal electron spin density shift induced by a helium nanodroplet, *Mol. Phys.* **108** (7), 1005-1011 (2010) (invited article in honour of Richard N. Zare).
24. Alexandra Pifrader, Olivier Allard, Gerald Auböck, Carlo Callegari, and Wolfgang E. Ernst, Robert Huber, and Francesco Ancilotto, One- and two-photon spectroscopy of highly excited states of alkali-metal atoms on helium nanodroplets, *J. Chem. Phys.* **133**, 164502-1-7 (2010).
25. Moritz Theisen, Florian Lackner, and Wolfgang E. Ernst, Forming  $Rb^+$  snowballs in the center of He nanodroplets, *PCCP* **12**, 14861-14863 (2010), **cover article**.
26. Moritz Theisen, Florian Lackner, Francesco Ancilotto, Carlo Callegari, and Wolfgang E. Ernst, Two-step excitation of Rb atoms on He nanodroplets, *Eur. Phys. J. D* **61**, 403–408 (2011).
27. Moritz Theisen, Florian Lackner, and Wolfgang E. Ernst, Rb and Cs oligomers in different spin configurations on helium nanodroplets, *J. Phys. Chem. A* **115**, 7005-9 (2011) (Festschrift in honor of J. Peter Toennies).

28. Alexander Volk, Johannes Poms, Markus Koch, and Wolfgang E. Ernst,  $^{87}\text{Rb}$  Electron Spin Resonance on Helium Nanodroplets: the Influence of Optical Pumping, *J. Phys. Chem. A* **115**, 7065-70 (2011)(Festschrift in honor of J. Peter Toennies).
29. F. Lackner, G. Krois, M. Theisen, M. Koch, and W. E. Ernst, Spectroscopy of  $n\text{S}$ ,  $n\text{P}$ , and  $n\text{D}$  Rydberg series of Cs atoms on helium nanodroplets, *PCCP* **13**, 18781-18788 (2011), themed issue on cold molecules, **cover article**.
30. Andreas W. Hauser and Wolfgang E. Ernst, Homo- and heteronuclear alkali metal trimers formed on helium nanodroplets: I. Vibronic spectra simulations based on ab initio calculations, *PCCP* **13**, 18762-18768 (2011), themed issue on cold molecules.
31. Christian Giese, Frank Stienkemeier, Marcel Mudrich, Andreas W. Hauser and Wolfgang E. Ernst, Homo- and heteronuclear alkali metal trimers formed on helium nanodroplets: II. Femtosecond spectroscopy and spectra assignments, *PCCP* **13**, 18769-18780 (2011), themed issue on cold molecules.
32. Moritz Theisen, Florian Lackner, and Wolfgang E. Ernst, Cs atoms on helium nanodroplets and the immersion of  $\text{Cs}^+$  into the nanodroplet, *J. Chem. Phys.* **135**, 074306-1-7 (2011), also September 5, 2011 issue of Virtual Journal of Nanoscale Science & Technology, <http://www.vjnano.org> .
33. Moritz Theisen, Florian Lackner, Günter Krois, and Wolfgang E. Ernst, Ionization thresholds of alkali-metal atoms on helium droplets, *J. Phys. Chem. Lett.* **2**, 2778-2782 (2011).
34. 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).
35. Florian Lackner, Günter Krois, Markus Koch, and Wolfgang E. Ernst, Rubidium on Helium Droplets: Analysis of an Exotic Rydberg Complex for  $n^* < 20$  and  $0 \leq l \leq 3$ , *J. Phys. Chem. Lett.* **3**, 1404-1408 (2012).
36. Andreas Kautsch, Matthias Hasewend, Markus Koch, and Wolfgang E. Ernst, Fano resonances in chromium photoionization spectra after photoinduced ejection from a superfluid helium nanodroplet, *Phys. Rev. A* **86**, 033428-1-4 (2012).
37. Johannes Poms, Andreas W. Hauser, and Wolfgang E. Ernst, Helium nanodroplets doped with xenon and rubidium atoms: A case study of Van derWaals interactions between heliophilic and heliophobic dopants, *PCCP* **14**, 15158-15165 (2012).
38. Andreas W. Hauser, Thomas Gruber, Michael Filatov, and Wolfgang E. Ernst, Shifts in the ESR spectra of alkali-metal atoms (Li, Na, K, Rb) on helium nanodroplets, *ChemPhysChem* **14**, 716-722, 2013 (invited paper for special issue on clusters), <http://dx.doi.org/10.1002/cphc.201200697>.
39. Andreas Kautsch, Markus Koch, and Wolfgang E. Ernst, Electronic relaxation after resonant laser excitation of Cr in superfluid helium nanodroplets, *J. Phys. Chem. A* **117**, 9621-25 (2013), <http://dx.doi.org/10.1021/jp312336m> (Festschrift in honor of Takeshi Oka).
40. Florian Lackner, Günter Krois, and Wolfgang E. Ernst, Rydberg-Ritz analysis and quantum defects for Rb and Cs atoms on helium nanodroplets, *Mol. Phys.* **111** (14-15), 2118-2125 (2013), <http://dx.doi.org/10.1080/00268976.2013.788792> (Festschrift in honor of Martin Quack).

41. Florian Lackner, Johannes Poms, Günter Krois, Johann V. Pototschnig, and Wolfgang E. Ernst, Spectroscopy of lithium atoms and molecules on helium nanodroplets, *J. Phys. Chem. A* **117** (46), 11866–11873 (2013) <http://dx.doi.org/10.1021/jp4030238> (Festschrift in honor of Curt Wittig).
42. Günter Krois, Johann V. Pototschnig, Florian Lackner, and Wolfgang E. Ernst, Spectroscopy of cold LiCa formed on helium nanodroplets, *J. Phys. Chem. A* **117** (50), 13719–13731 (2013), <http://dx.doi.org/10.1021/jp407818k> (Festschrift in honor of Terry Miller).
43. 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>.
44. 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>.
45. Friedrich Lindebner, Andreas Kautsch, Markus Koch, and Wolfgang E. Ernst, Laser ionization and spectroscopy of Cu in superfluid helium nanodroplets, *International Journal of Mass Spectrometry* **365-366**, 255-259 (2014), <http://dx.doi.org/10.1016/j.ijms.2013.12.022> (Festschrift in honor of Tilmann Maerk).
46. Martin Ratschek, Johann V. Pototschnig, Andreas W. Hauser, and Wolfgang E. Ernst, Solvation and Spectral Line Shifts of Chromium Atoms in Helium Droplets based on a Density Functional Theory Approach, *J. Phys. Chem. A* **118** (33), 6622-6631 (2014) (Festschrift in honor of Franco Gianturco), <http://pubs.acs.org/doi/abs/10.1021/jp5034036>.
47. Markus Koch, Andreas Kautsch, Florian Lackner, and Wolfgang E. Ernst, One- and Two-Color Resonant Photoionization Spectroscopy of Chromium Doped Helium Nanodroplets, *J. Phys. Chem. A* **118** (37), 8373–8379 (2014) (Festschrift in honor of A. Welford Castleman), <http://pubs.acs.org/doi/abs/10.1021/jp501285r>.
48. Johann V. Pototschnig, Martin Ratschek, Andreas W. Hauser, and Wolfgang E. Ernst, An ab initio study of the CrHe diatomic: The effect of van der Waals distortion on a highly magnetic multi-electron system, *PCCP* **16**, 9469-9478 (2014), <http://dx.doi.org/10.1039/C4CP00559G>.
49. 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>
50. Günter Krois, Florian Lackner, Johann V. Pototschnig, Thomas Buchsteiner, and Wolfgang E. Ernst, Characterization of RbSr Molecules: A Spectral Analysis on Helium Droplets, *PCCP* **16**, 22373-22381 (2014), <http://dx.doi.org/10.1039/C4CP03135K>.
51. Florian Lackner, Günter Krois, Thomas Buchsteiner, Johann V. Pototschnig, and Wolfgang E. Ernst, Helium Droplet Assisted Preparation of Cold RbSr Molecules, *Phys. Rev. Lett.* **113**, 153001-1-5 (2014), <http://dx.doi.org/10.1103/PhysRevLett.113.153001>.

52. Andreas Kautsch, Markus Koch, and Wolfgang E. Ernst, Photoinduced Molecular Dissociation and Photoinduced Recombination Mediated by Superfluid Helium Nanodroplets, *PCCP* **17**, 12310-12316 (2015), <http://dx.doi.org/10.1039/c5cp01009h> .
53. 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> .
54. Georg Haberkorn, 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> .
55. 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> .
56. 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> .
57. 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> .
58. Michael Renzler, Matthias Daxner, Lorenz Kranabetter, Alexander Kaiser, Andreas W. Hauser, Wolfgang E. Ernst, Albrecht Lindinger, Robert Zillich, Paul Scheier, and Andrew M. Ellis, Dopant-induced solvation of alkalis in liquid helium nanodroplets, *J. Chem Phys.* **145** (Communications), 181101-1-5 (2016), <http://dx.doi.org/10.1063/1.4967405> .
59. 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* **174**, 1-7 (2017), <http://dx.doi.org/10.1016/j.ultramic.2016.12.012> .
60. Johann V. Pototschnig, Florian Lackner, Andreas W. Hauser, and Wolfgang E. Ernst, Rydberg states of alkali atoms on superfluid helium nanodroplets: Inside or outside?, *PCCP* **19**, 14718-14728 (2017), <http://dx.doi.org/10.1039/C7CP02332D> .
61. Florian Lackner, Günter Krois, and Wolfgang E. Ernst, Lithium Atoms on Helium Nanodroplets: Rydberg Series and Ionization Dynamics, *J. Chem. Phys.* **147**, 184302-1-7 (2017), <https://doi.org/10.1063/1.5004543> .
62. 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> .

63. 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> .
64. Florian Lackner and Wolfgang E. Ernst, Photo-induced Molecule Formation of Spatially Separated Atoms on Helium Nanodroplets, *J. Phys. Chem. Lett.* **9** (13), 3561–3566 (2018), <https://pubs.acs.org/doi/10.1021/acs.jpcclett.8b01530> .
65. Roman Messner, Alexander Schiffmann, Johann V. Pototschnig, Maximilian Lasserus, Martin Schnedlitz, Florian Lackner, and Wolfgang E. Ernst, Spectroscopy of gold atoms and gold oligomers in helium nanodroplets, *J. Chem. Phys.* **149**, 024305-1-13 (2018), <https://aip.scitation.org/doi/10.1063/1.5026480> .
66. Bernhard Thaler, Sascha Ranftl, Pascal Heim, Stefan Cesnik, Leonhard Treiber, Ralf Meyer, Andreas W. Hauser, Wolfgang E. Ernst, and Markus Koch, Femtosecond photoexcitation dynamics inside a quantum solvent, *Nature Communications* **9**, 4006-1-6 (2018), <https://www.nature.com/articles/s41467-018-06413-9> .
67. Bernhard Thaler, Ralf Meyer, Pascal Heim, Sascha Ranftl, Johann V. Pototschnig, Andreas W. Hauser, Markus Koch, and Wolfgang E. Ernst, Conservation of Hot Thermal Spin-Orbit Population of  $^{2}\text{P}$  Atoms in a Cold Quantum Fluid Environment, *J. Phys. Chem. A* **123**, 3977–3984 (2019), <https://pubs.acs.org/doi/10.1021/acs.jpca.9b02920> .
68. 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> .
69. 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> .
70. 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> .
71. 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> .
72. 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> .
73. 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> .
74. 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> .
75. 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> .
76. 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> .
77. 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> .
78. 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>.
79. 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> .
80. 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.jpcllett.0c03399> .
81. Jasna Alić, Roman Messner, Florian Lackner, Wolfgang E. Ernst and Marina Šekutor, London Dispersion Dominating Diamantane Packing in Helium Nanodroplets, *PCCP* **23**, 21833-21839 (2021), <https://doi.org/10.1039/D1CP03380H> .
82. 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> .
83. 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> .

## Book chapters

1. "Laser Spectroscopy of Atoms and Molecules Attached to Highly Quantum Clusters" by F. Stienkemeier, J. Higgins, W. E. Ernst, C. Callegari and G. Scoles, in: *Laser Spectroscopy XII*, eds. M. Inguscio, M. Allegrini, and A. Sasso, p. 377-381, World Scientific Publ. 1996.
2. "Spectroscopy in, on, and off a Beam of Superfluid Helium Nanodroplets" by J. Higgins, J. Reho, F. Stienkemeier, W. E. Ernst, K. K. Lehmann, and G. Scoles, in: *Atomic and Molecular Beams: The State of the Art 2000*, ed. Roger Campargue, p. 723-754, Springer, NY 2001.
3. "**Helium Droplets as Nanocryostats for Molecular Spectroscopy—from the Vacuum Ultraviolet to the Microwave Regime**" by C. Callegari and W. E. Ernst in: *Handbook of High Resolution Spectroscopy*, eds. F. Merkt and M. Quack, 1<sup>st</sup> Edition, Vol. 3, p. 1551-1594, ISBN-10: 0-470-06653-9, ISBN-13: 978-0-470-06653-9 - John Wiley & Sons, Chichester 2011.