

List of Publications: Konstantin Hirsch

- [1] E. Iacocca, T.-M. Liu, A. H. Reid, Z. Fu, S. Ruta, P. W. Granitzka, E. Jal, S. Bonetti, A. X. Gray, C. E. Graves, R. Kukreja, Z. Chen, D. J. Higley, T. Chase, L. Le Guyader, **K. Hirsch**, H. Ohldag, W. F. Schlotter, G. L. Dakovski, G. Coslovich, M. C. Hoffmann, S. Carron, A. Tsukamoto, A. Kirilyuk, A. V. Kimel, Th. Rasing, J. Stöhr, R. F. L. Evans, T. Ostler, R. W. Chantrell, M. A. Hofer, T. J. Silva and H. A. Dürr, *Spin-current-mediated rapid magnon localisation and coalescence after ultrafast optical pumping of ferrimagnetic alloys*, Nat. Commun. **10**, 1756 (2019).
- [2] M. Walter, M. Vogel, V. Zamudio-Bayer, R. Lindblad, T. Reichenbach, **K. Hirsch**, A. Langenberg, J. Rittmann, A. Kulesza, R. Mitrić, M. Moseler, T. Möller, B. von Issendorff and J. T. Lau, *Experimental and theoretical 2p core-level spectra of size-selected gas-phase aluminum and silicon cluster cations: chemical shifts, geometric structure, and coordination-dependent screening*, Phys. Chem. Chem. Phys. **21**, 6651-6661 (2019)
- [3] V. Zamudio-Bayer, **K. Hirsch**, A. Langenberg, A. Ławicki, A. Terasaki, B. von Issendorff and J. T. Lau, *Large orbital magnetic moments of small, free cobalt cluster ions Co_n^+ with $n \leq 9$* , J. Phys.: Condens. Matter **30**, 464002 (2018).
- [4] S. Bari, D. Egorov, T. L. C. Jansen, R. Boll, R. Hoekstra, S. Techert, V. Zamudio-Bayer, C. Bülow, R. Lindblad, G. Leistner, A. Ławicki, **K. Hirsch**, P. S. Miedema, B. von Issendorff, J. T. Lau, T. Schlathöler *Soft X-ray Spectroscopy as a Probe for Gas-Phase Protein Structure: Electron Impact Ionization from Within*, Chem. Eur. J. **24**, 7631 (2018).
- [5] A. A. Lutman, J. P. MacArthur, M. Ilchen, A. O. Lindahl, J. Buck, R. N. Coffee, G. L. Dakovski, L. Dammann, Y. Ding, H. A. Dürr, L. Glaser, J. Grünert, G. Hartmann, N. Hartmann, D. Higley, **K. Hirsch**, Y. I. Levashov, A. Marinelli, T. Maxwell, A. Mitra, S. Moeller, T. Osipov, F. Peters, M. Planas, I. Schevchuk, W. Schlotter, F. Scholz, J. Seltmann, J. Viehhaus, P. Walter, Z. R. Wolf, Z. Huang, H.-D. Nuhn, *Polarization Control in an X-Ray Free-Electron Laser*, Nat. Photonics **10**, 468 (2016).
- [6] S. T. Akin, V. Zamudio-Bayer, K. Duanmu, G. Leistner, **K. Hirsch**, C. Bülow, A. Ławicki, A. Terasaki, B. von Issendorff, D. G. Truhlar, J. T. Lau, and M. A. Duncan, *Size-Dependent Ligand Quenching of Ferromagnetism in $Co_3(\text{benzene})_n^+$ Clusters Studied with X-ray Magnetic Circular Dichroism Spectroscopy*, Phys. Chem. Lett. **3**, 4568 (2016).
- [7] D. J. Higley, **K. Hirsch**, G. L. Dakovski, E. Jal, E. Yuan, T. Liu, A. Lutman, J. P. MacArthur, E. Arenholz, Z. Chen, G. Coslovich, P. Denes, P. Granitzka, P. Hart, M. C. Hoffmann, J. M. Joseph, L. Le Guyader, A. Mitra, S. Moeller, H. Ohldag, M. H. Seaberg, P. Shafer, J. Stöhr, A. Tsukamoto, H.-D. Nuhn, A. H. M. Reid, H. A. Dürr, W. F. Schlotter, *Femtosecond X-ray magnetic circular dichroism absorption spectroscopy at an X-ray free electron laser*, Rev. Sci. Instrum. **87**, 033110 (2016).
- [8] V. Zamudio-Bayer, **K. Hirsch**, A. Langenberg, A. Ławicki, A. Terasaki, B. von Issendorff, J. T. Lau, *Electronic ground states of Fe_2^+ and Co_2^+ as determined by x-ray absorption and x-ray magnetic circular dichroism spectroscopy*, J. Chem. Phys. **143**, 244318 (2015).

- [9] D. Egorov, S. Bari, R. Hoekstra, A. Ławicki, **K. Hirsch**, V. Zamudio-Bayer, T. Lau, B. von Issendorff, and T. Schlathölter, *An intense electrospray ionization source for soft X-ray photoionization of gas phase protein ions*, J. Phys. Conf. Ser. **635**, 112083 (2015).
- [10] V. Zamudio-Bayer, **K. Hirsch**, A. Langenberg, M. Kossick, A. Ławicki, A. Terasaki, B. von Issendorff, and J. T. Lau, *Direct observation of high-spin states in manganese dimer and trimer cations by x- ray magnetic circular dichroism spectroscopy in an ion trap*, J. Chem. Phys. **142**, 234301 (2015).
- [11] **K. Hirsch**, V. Zamudio-Bayer, A. Langenberg, M. Vogel, J. Rittmann, S. Forin, T. Möller, B. von Issendorff, and J. T. Lau, *Impurity Electron Localization in Early-Transition-Metal-Doped Gold Clusters*, J. Phys. Chem. C **119**, 11184 (2015).
- [12] C. Kasigkeit, **K. Hirsch**, A. Langenberg, T. Möller, J. Probst, J. Rittmann, M. Vogel, J. Wittich, V. Zamudio-Bayer, B. von Issendorff, and J. T. Lau, *Higher Ionization Potentials from Sequential Vacuum-Ultraviolet Multiphoton Ionization of Size-Selected Silicon Cluster Cations*, J. Phys. Chem. C **119**, 11148 (2015).
- [13] V. Zamudio-Bayer, **K. Hirsch**, A. Langenberg, M. Niemeyer, M. Vogel, A. Ławicki, A. Terasaki, J. T. Lau, and B. von Issendorff, *Maximum spin polarization in chromium dimer cations demonstrated by X-ray magnetic circular dichroism spectroscopy*, Angew. Chem. Int. Ed. **54**, 4498 (2015).
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- [15] A. Langenberg, **K. Hirsch**, A. Lawicki, V. Zamudio-Bayer, M. Niemeyer, P. Chmiela, B. Langbehn, A. Terasaki, B. v. Issendorff, J. T. Lau, *Spin and orbital magnetic moments of size-selected iron, cobalt, and nickel clusters*, Phys. Rev. B **90**, 184420 (2014).
- [16] V. Zamudio-Bayer, L. Leppert, **K. Hirsch**, A. Langenberg, J. Rittmann, M. Kossick, M. Vogel, R. Richter, A. Terasaki, T. Möller, B. v. Issendorff, S. Kümmel, and J. T. Lau, *Coordination-driven magnetic-to-nonmagnetic transition in manganese doped silicon clusters*, Phys. Rev. B **88**, 115425 (2013).
- [17] M. Vogel, C. Kasigkeit, **K. Hirsch**, A. Langenberg, J. Rittmann, V. Zamudio-Bayer, A. Kulesza, R. Mitric, T. Möller, B. v. Issendorff, J. T. Lau, *2p core-level binding energies of size-selected free silicon clusters: chemical shifts and cluster structure*, Phys. Rev. B **85**, 195454 (2012).
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- [20] **K. Hirsch**, V. Zamudio-Bayer, J. Rittmann, A. Langenberg, M. Vogel, T. Möller, B. von Issendorff, J. T. Lau, *Initial- and final-state effects on screening and branching ratio in 2p x-ray absorption of size-selected 3d transition metal clusters*, Phys. Rev. B **86**, 165402 (2011).
- [21] J. T. Lau, M. Vogel, A. Langenberg, **K. Hirsch**, J. Rittmann, V. Zamudio-Bayer, T. Möller, and B. von Issendorff, *Communication: Highest occupied molecular orbital-lowest unoccupied molecular orbital gaps of doped silicon clusters from core level spectroscopy*, J. Chem. Phys. **134**, 041102 (2011).
- [22] **K. Hirsch**, J. T. Lau, P. Klar, A. Langenberg, J. Probst, J. Rittmann, M. Vogel, V. Zamudio-Bayer, T. Möller, and B. von Issendorff, *X-ray spectroscopy on size-selected clusters in an ion trap: from the molecular limit to bulk properties*, J. Phys. B: At. Mol. Opt. Phys. **42**, 154029 (2009).
- [23] J. T. Lau, **K. Hirsch**, P. Klar, A. Langenberg, F. Lofink, R. Richter, J. Rittmann, M. Vogel, V. Zamudio-Bayer, T. Möller, and B. von Issendorff, *X-ray spectroscopy reveals high symmetry and electronic shell structure of transition-metal-doped silicon clusters*, Phys. Rev. A **79**, 053201 (2009).
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