

## List of Publications 1987-2023 Reinhard Dörner

Journal	Sum
	429
Science/Nature	12
Nat.Phys./Nat.Phot./Nat.Chem.	13
Nat.Comm./PNAS/SciAdv	13
Phys.Rev.Lett., Phys.Rev.X, J.P.C.Lett., Chem.Sci.	100
Phys.Rev A/B/R,Chem.Phys	85
J.Phys.B	54
other refereed	88
non refereed	64

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### Publications 2023

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- [1] Lianrong Zhou, Hongcheng Ni, Zhejun Jiang, Junjie Qiang, Wenyu Jiang, Wenbin Zhang, Peifen Lu, Jin Wen, Kang Lin, Meifang Zhu, Reinhard Dörner and Jian Wu  
Ultrafast formation dynamics of  $D_3^+$  from the light-driven bimolecular reaction of the D2-D2 dimer  
*Nature Chemistry, accepted for publication*
- [2] A. Hans, F. Trinter, Ph. Schmidt, S. Eckart, S. Grundmann, G. Hartmann, X. Holzapfel, C. Honisch, G. Kastirke, M. Kircher, N. Melzer, C. Ozga, C. Richter, J. Rist, M. Schöffler, D. Trabert, I. Vela-Perez, J. H. Viehmann, M. Weller, R. Dörner, U. Hergenhahn, A. Ehresmann, A. Knie, K. Gokhberg, A. Ghosh, T. Jahnke  
Mechanisms of one-photon two-site double ionization after resonant inner-valence excitation in Ne clusters  
*Phys. Rev. Res.*, 5 (2023) 013055
- [3] G. Nalin, N. M. Novikovskiy, K. Fehre, N. Anders, D. Trabert, S. Grundmann, M. Kircher, A. Khan, R. Tomar, M. Hofmann, M. Waitz, I. Vela-Perez, G. Kastirke, J. Siebert, D. Tsitsonis, C. Küstner-Wetekam, L. Marder, J. Viehmann, F. Trinter, H. Fukuzawa, K. Ueda, J. B. Williams, A. Knie, R. Dörner, M. S. Schöffler, T. Jahnke, Ph. V. Demekhin  
Molecular-frame differential photoelectron circular dichroism of O 1s-photoelectrons of trifluoromethyloxirane  
*Phys. Rev. Res.*, 5 (2023) 013021

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### Publications 2022

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- [4] K. Lin, S. Eckart, A. Hartung, D. Trabert, K. Fehre, J. Rist, L.Ph.H. Schmidt, M.S. Schöffler, T. Jahnke, M. Kunitski, R. Dörner  
Photoelectron energy peaks shift against the radiation pressure in strong field ionization  
*Science Advances* 8, 12 (2022)
- [5] K. Lin, X. Chen, S. Eckart, H. Jiang, A. Hartung, D. Trabert, K. Fehre, J. Rist, L. Ph. H. Schmidt, M. S. Schöffler, T. Jahnke, M. Kunitski, F. He, R. Dörner  
Magnetic-Field Effect as a Tool to Investigate Electron Correlation in Strong-Field Ionization  
*Phys.Rev.Lett.* , 128 113201 (2022)
- [6] K. Lin, S. Brennecke, H. Ni, X. Chen, A. Hartung, D. Trabert, K. Fehre, J. Rist, X.-M. Tong, J. Burgdörfer, L.Ph.H. Schmidt, M.S. Schöffler, T. Jahnke, M. Kunitski, F. He, M. Lein, S. Eckart, R. Dörner  
Magnetic-field effect in high-order above-threshold ionization  
*Phys.Rev.Lett.* 128, 023201 (2022)
- [7] M. Kircher, F. Trinter, S. Grundmann, G. Kastirke, M. Weller, I. Vela-Perez, A. Khan, C. Janke, M. Waitz, S. Zeller, T. Mletzko, D. Kirchner, V. Honkimäki, S. Houamer, O. Chuluunbaatar, Yu. V. Popov, I. P. Volobuev, M. S. Schöffler, L. Ph. H. Schmidt, T. Jahnke, R. Dörner  
Ion and electron momentum distributions from single and double ionization of helium induced by Compton scattering  
*Phys.Rev.Lett.* 128, 053001 (2022)

- [8] D.V. Rezvan, K. Klysssek, S. Grundmann, A. Pier, N. M. Novikovskiy, N. Strenger, D. Tsitsonis, M. Kircher, I. Vela-Perez, K. Fehre, F. Trinter, M. S. Schöffler, T. Jahnke, R. Dörner, Ph. V. Demekhin.  
Observation of Nondipole-Induced Asymmetry in the Angular Emission Distribution of Photoelectrons from Fixed-in-Space CO Molecules  
*Phys.Rev.Lett.* 129, 253201 (2022)
- [9] R. Boll, J. M. Schäfer, B. Richard, K. Fehre, G. Kastirke, Z. Jurek, M. S. Schöffler, M. M. Abdullah, N. Anders, T. M. Baumann, S. Eckart, B. Erk, A. De Fanis, R. Dörner, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann, M. Ilchen, L. Inhester, C. Janke, R. Jin, M. Kircher, K. Kubicek, M. Kunitski, X. Li, T. Mazza, S. Meister, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, C. Passow, A. Pier, N. Rennhack, J. Rist, D. E. Rivas, D. Rolles, I. Schlichting, L. Ph. H. Schmidt, P. Schmidt, J. Siebert, N. Strenger, D. Trabert, F. Trinter, I. Vela-Perez, R. Wagner, P. Walter, M. Weller, P. Ziolkowski, S.-K. Son, A. Rudenko, M. Meyer, R. Santra, T. Jahnke  
X-ray multiphoton-induced Coulomb explosion images complex single molecules  
*Nature Physics* 18, 423 (2022)
- [10] T. Severt, Z. L. Streeter, W. Iskandar, K. A. Larsen, A. Gatton, D. Trabert, B. Jochim, B. Griffin, E. G. Champenois, M. M. Brister, D. Reedy, D. Call, R. Strom, A. L. Landers, R. Dörner, J. B. Williams, D. S. Slaughter, R. R. Lucchese, Th. Weber, C. W. McCurdy, I. Ben-Itzhak  
Step-by-step state-selective tracking of fragmentation dynamics of water dications by momentum imaging  
*Nat. Comm.*, 13, 5146 (2022)
- [11] F. Trinter, T. Miteva, M. Weller, A. Hartung, M. Richter, J. B. Williams, A. Gatton, B. Gaire, J. Sartor, A. Landers, B. Berry, I. Ben-Itzhak, N. Sisourat, V. Stumpf, K. Gokhberg, R. Dörner, T. Jahnke and T. Weber  
Ultrafast Temporal Evolution of Interatomic Coulombic Decay in NeKr Dimers  
*Chem.Sci.* 13, 1789 (2022)
- [12] G. Kastirke, F. Ota, D. V. Rezvan, M. S. Schöffler, M. Weller, J. Rist, R. Boll, N. Anders, T. M. Baumann, S. Eckart, B. Erk, A. De Fanis, K. Fehre, A. Gatton, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann, M. Ilchen, C. Janke, M. Kircher, M. Kunitski, X. Li, T. Mazza, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, A. Pier, N. Rennhack, D. E. Rivas, R. Dörner, D. Rolles, A. Rudenko, Ph. Schmidt, J. Siebert, N. Strenger, D. Trabert, I. Vela-Perez, R. Wagner, Th. Weber, J. B. Williams, P. Ziolkowski, L. Ph. H. Schmidt, A. Czasch, Y. Tamura, N. Hara, K. Yamazaki, K. Hatada, F. Trinter, M. Meyer, K. Ueda, Ph. V. Demekhin, T. Jahnke  
Investigating charge-up and fragmentation dynamics of oxygen molecules after interaction with strong X-ray free-electron laser pulses  
*Phys. Chem. Chem. Phys.*, 24, 27121 (2022)
- [13] X. Li, A. Rudenko, T. Mazza, A. Rörig, N. Anders, Th. M. Baumann, S. Eckart, B. Erk, A. De Fanis, K. Fehre, R. Dörner, L. Foucar, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann, M. Ilchen, Ch. Janke, G. Kastirke, M. Kircher, K. Kubicek, M. Kunitski, S. Meister, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, Ch. Passow, A. Pier, N. Rennhack, J. Rist, D. E. Rivas, I. Schlichting, L. Ph. H. Schmidt, Ph. Schmidt, M. S. Schöffler, J. Siebert, N. Strenger, D. Trabert, F. Trinter, I. Vela-Perez, R. Wagner, P. Walter, M. Weller, P. Ziolkowski, A. Czasch, M. Meyer, T. Jahnke, D. Rolles, R. Boll  
Resonance-enhanced x-ray multiple ionization of a polyatomic molecule  
*Phys. Rev. A*, 105, 053102 (2022)
- [14] X. Li, A. Rudenko, M. S. Schöffler, N. Anders, Th. M. Baumann, S. Eckart, B. Erk, A. De Fanis, K. Fehre, R. Dörner, L. Foucar, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann, M. Ilchen, Ch. Janke, G. Kastirke, M. Kircher, K. Kubicek, M. Kunitski, T. Mazza, S. Meister, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, Ch. Passow, A. Pier, N. Rennhack, J. Rist, D. E. Rivas, I. Schlichting, L. Ph. H. Schmidt, Ph. Schmidt, J. Siebert, N. Strenger, D. Trabert, F. Trinter, I. Vela-Perez, R. Wagner, P. Walter, M. Weller, P. Ziolkowski, A. Czasch, D. Rolles, M. Meyer, T. Jahnke, R. Boll  
Coulomb explosion imaging of small polyatomic molecules with ultrashort x-ray pulses  
*Phys. Rev. Res.*, 4, 013029 (2022)
- [15] S. Grundmann, F. Trinter, Y.-K. Fang, K. Fehre, N. Strenger, A. Pier, L. Kaiser, M. Kircher, L.-Y. Peng, T. Jahnke, R. Dörner, M. S. Schöffler

- [16] K. Fehre, N. M. Novikovskiy, S. Grundmann, G. Kastirke, S. Eckart, F. Trinter, J. Rist, A. Hartung, D. Trabert, Ch. Janke, M. Pitzer, S. Zeller, F. Wiegandt, M. Weller, M. Kircher, G. Nalin, M. Hofmann, L. Ph. H. Schmidt, A. Knie, A. Hans, L. Ben Ltaief, A. Ehresmann, R. Berger, H. Fukuzawa, K. Ueda, H. Schmidt-Böcking, J. B. Williams, T. Jahnke, R. Dörner, Ph. V. Demekhin, M. S. Schöffler.  
A new route for enantio-sensitive structure determination by photoelectron scattering on molecules in the gas phase  
*Phys. Chem. Chem. Phys.*, 24, 264582646 (2022)

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**Publications 2021**

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- [17] M. Kunitski, Q. Guan, H. Maschkiwitz, J. Hahnenbruch, S. Eckart, S. Zeller, A. Kalinin, M. Schöffler, L.Ph.H. Schmidt, T. Jahnke, D. Blume and R. Dörner  
Ultrafast manipulation of the weakly bound helium dimer  
*Nature Physics* 17, 174, 178 (2021)
- [18] J. Rist, K. Klyseck, N.M. Novikovskiy, M. Kircher, I. Vela-Perez, D. Trabert, S. Grundmann, D. Tsitsonis, J. Siebert, A. Geyer, N. Melzer, C. Schwarz, N. Anders, L. Kaiser, K. Fehre, A. Hartung, S. Eckart, L.Ph.H. Schmidt, M.S. Schöffler, V.T. Davis, J.B. Williams, F. Trinter, R. Dörner, P.V. Demekhin, T. Jahnke  
Measuring the photoelectron emission delay in the molecular frame  
*Nat. Comm.* 12, 6657 (2021)
- [19] D. Trabert, K. Fehre, N. Anders, A. Geyer, S. Grundmann, M.S. Schöffler, L.Ph.H. Schmidt, T. Jahnke, R. Dörner, M. Kunitski and S. Eckart  
Angular dependence of the Wigner time delay upon tunnel ionization of  $H_2$   
*Nat. Comm.* 12, 1697 (2021)
- [20] T. Jahnke, R. Guillemin, L. Inhester, S.-K. Son, G. Kastirke, M. Ilchen, J. Rist, D. Trabert, N. Melzer, N. Anders, T. Mazza, R. Boll, A. De Fanis, V. Music, Th. Weber, M. Weller, S. Eckart, K. Fehre, S. Grundmann, A. Hartung, M. Hofmann, C. Janke, M. Kircher, G. Nalin, A. Pier, J. Siebert, N. Strenger, I. Vela-Perez, T. M. Baumann, P. Grychtol, J. Montano, Y. Ovcharenko, N. Rennhack, D. E. Rivas, R. Wagner, P. Ziolkowski, P. Schmidt, T. Marchenko, O. Travnikova, L. Journal, I. Ismail, E. Kukk, J. Niskanen, F. Trinter, C. Vozzi, M. Devetta, S. Stagira, M. Gisselbrecht, A. L. Jäger, X. Li, Y. Malakar, M. Martins, R. Feifel, L. Ph. H. Schmidt, A. Czasch, G. Sansone, D. Rolles, A. Rudenko, R. Moshhammer, R. Dörner, M. Meyer, T. Pfeifer, M. S. Schöffler, R. Santra, M. Simon, and M. N. Piancastelli  
Inner-Shell-Ionization-Induced Femtosecond Structural Dynamics of Water Molecules Imaged at an X-ray Free-Electron Laser  
*Phys.Rev.X* 11, 041044 (2021)
- [21] D. Trabert, N. Anders, S. Brennecke, M. S. Schöffler, T. Jahnke, L. Ph. H. Schmidt, M. Kunitski, M. Lein, R. Dörner, S. Eckart  
Nonadiabatic Strong Field Ionization of Atomic Hydrogen  
*Phys.Rev.Lett.* 127, 273201 (2021)
- [22] K. Fehre, N.M. Novikovskiy, S. Grundmann, G. Kastirke, S. Eckart, F. Trinter, J. Rist, A. Hartung, D. Trabert, C. Janke, G. Nalin, M. Pitzer, S. Zeller, F. Wiegandt, M. Weller, M. Kircher, M. Hofmann, L.Ph.H. Schmidt, A. Knie, A. Hans, L. Ben Ltaief, A. Ehresmann, R. Berger, H. Fukuzawa, K. Ueda, H. Schmidt-Böcking, J. B. Williams, T. Jahnke, R. Dörner M. S. Schöffler, Ph. V. Demekhin  
Fourfold Differential Photoelectron Circular Dichroism  
*Phys.Rev.Lett.* 127, 103201 (2021)
- [23] K. Fehre, S. Eckart, M. Kunitski, C. Janke, D. Trabert, M. Hofmann, J. Rist, M. Weller, A. Hartung, L.Ph.H. Schmidt, T. Jahnke, H. Braun, T. Baumert, J. Stohner, Ph.V. Demekhin, M.S. Schöffler, and R. Dörner  
Strong Differential Photoion Circular Dichroism in Strong-Field Ionization of Chiral Molecules  
*Phys.Rev.Lett.* 126, 08320 (2021)

- [24] A. Hartung, S. Brennecke, K. Lin, D. Trabert, K. Fehre, J. Rist, M. S. Schöffler, T. Jahnke, L. Ph. H. Schmidt, M. Kunitski, M. Lein, R. Dörner, and S. Eckart  
Electric Nondipole Effect in Strong-Field Ionization  
*Phys.Rev.Lett.* 126, 053202 (2021)
- [25] O. Chuluunbaatar, S. Houamer, Yu.V. Popov, I.P. Volobuev, M. Kircher, R. Dörner  
Compton double ionization of the helium atom: Can it be a method of dynamical spectroscopy of ground state electron correlation?  
*J.Quant.Spectrosc.Radiat.Transf.* 272, 108020 (2021)
- [26] O. Chuluunbaatar, S. Houamer, Yu.V. Popov, I.P. Volobuev, M. Kircher, R. Dörner  
Compton ionization of atoms as a method of dynamical spectroscopy  
*J.Quant.Spectrosc.Radiat.Transf.* 272, 107820 (2021)
- [27] S. Grundmann, T. Jahnke, R. Dörner  
Wie ein Photon ein Wasserstoffmolekül durchquert  
*Physik in unserer Zeit* 52, 9 (2021)
- [28] K. Fehre, M. Pitzer, F. Trinter, R. Berger, A. Schießler, H. Schmidt-Böcking, R. Dörner, M. S. Schöffler  
Closed-loop recycling of rare liquid samples for gas-phase experiments  
*Rev. Sci. Instrum.*, 92 023205 (2021)
- [29] H. Schmidt-Böcking, J. Ullrich, R. Dörner, C.L. Cocke  
The COLTRIMS Reaction MicroscopeThe Spyhole into the Ultrafast Entangled Dynamics of Atomic and Molecular Systems  
*Annalen der Physik*, 533 2100134 (2021)
- [30] T. Jahnke, V. Mergel, O. Jagutzki, A. Czasch, K. Ullmann, R. Ali, V. Frohne, T. Weber, L. Ph. Schmidt, S. Eckart, M. Schöffler, S. Schößler, S. Voss, A. Landers, D. Fischer, M. Schulz, A. Dorn, L. Spielberger, R. Moshhammer, R. Olson, M. Prior, R. Dörner, J. Ullrich, C. L. Cocke, H. Schmidt-Böcking  
High-Resolution Momentum Imaging - From Stern's Molecular Beam Method to the COLTRIMS Reaction Microscope  
*in: Molecular Beams in Physics and Chemistry Ed.: B. Friedrich and H. Schmidt-Böcking, Springer (2021)*
- [31] M.S. Schöffler, L.Ph.H. Schmidt, S.Eckart, R. Dörner, A. Czasch, O. Jagutzki, T. Jahnke, J. Ullrich, R. Moshhammer, R. Schuch, H. Schmidt-Böcking  
Ultra-fast Dynamics in Quantum Systems Revealed by Particle Motion as Clock  
*in: Molecular Beams in Physics and Chemistry Ed.: B. Friedrich and H. Schmidt-Böcking, Springer (2021)*

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#### Publications 2020

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- [32] S. Grundmann, D. Trabert, K. Fehre, N. Strenger, A. Pier, L. Kaiser, M. Kircher, M. Weller, S. Eckart, L. Ph. H. Schmidt, F. Trinter, T. Jahnke, M. S. Schöffler, and R. Dörner  
Zeptosecond Birth Time Delay in Molecular Photoionization  
*Science*, 370, 339-341 (2020)
- [33] M. Kircher, F. Trinter, S. Grundmann, I. Vela-Perez, S. Brennecke, N. Eicke, J. Rist, S. Eckart, S. Houamer, O. Chuluunbaatar, Y. V. Popov, I. P. Volobuev, K. Bagschik, M. N. Piancastelli, M. Lein, T. Jahnke, M. S. Schöffler, and R. Dörner  
Kinematically complete experimental study of Compton scattering at helium atoms near the threshold  
*Nature Physics* 16, 756 (2020)
- [34] A. Khan, T. Jahnke, S. Zeller, F. Trinter, M. Schöffler, L. Ph. H. Schmidt, R. Dörner, and M. Kunitski  
Visualizing the Geometry of Hydrogen Dimers  
*J.Phys.Chem.Lett.*, 11, 2457-2463 (2020)

- [35] S. Grundmann, M. Kircher, I. Vela-Perez, G. Nalin, D. Trabert, N. Anders, N. Melzer, J. Rist, A. Pier, N. Strenger, J. Siebert, Ph.V. Demekhin, L.Ph.H. Schmidt, F. Trinter, M.S. Schöffler, T. Jahnke, and R. Dörner  
Observation of photoion backward emission in photoionization of He and  $N_2$   
*Phys.Rev.Lett.* 124, 233201 (2020)
- [36] Si-Ge Chen, Wei-Chao Jiang, S. Grundmann, F. Trinter, M. S. Schöffler, T. Jahnke, R. Dörner, Hao Liang, Mu-Xue Wang, Liang-You Peng, Qihuang Gong  
Photon Momentum Transfer in Single-Photon Double Ionization of Helium in photoionization of  $N_2$  at  $h\nu = 40$  keV  
*Phys.Rev.Lett.*, 124, 043201 (2020)
- [37] G. Kastirke, M. S. Schöffler, M. Weller, J. Rist, R. Boll, N. Anders, Th. M. Baumann, S. Eckart, B. Erk, A. De Fanis, K. Fehre, A. Gatton, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann, M. Ilchen, Ch. Janke, M. Kircher, M. Kunitski, X. Li, T. Mazza, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, A. Pier, N. Rennhack, D. E. Rivas, R. Dörner, D. Rolles, A. Rudenko, Ph. Schmidt, J. Siebert, N. Strenger, D. Trabert, I. Vela-Perez, R. Wagner, Th. Weber, J. B. Williams, P. Ziolkowski, L. Ph. H. Schmidt, A. Czasch, K. Ueda, F. Trinter, M. Meyer, Ph. V. Demekhin, and T. Jahnke  
Double Core-Hole Generation in  $O_2$  Molecules Using an X-Ray Free-Electron Laser: Molecular-Frame Photoelectron Angular Distributions  
*Phys.Rev.Lett.*, 125, 163201 (2020)
- [38] G. Kastirke, M.S. Schöffler, M. Weller, J. Rist, R. Boll, N. Anders,1 T.M. Baumann, S. Eckart, B. Erk,3 A. De Fanis, K. Fehre, A. Gatton, S. Grundmann, P. Grychtol, A. Hartung, M. Hofmann,1 M. Ilchen, C. Janke,1 M. Kircher, M. Kunitski, X. Li, T. Mazza, N. Melzer, J. Montano, V. Music, G. Nalin, Y. Ovcharenko, A. Pier, N. Rennhack, D.E. Rivas, R. Dörner, D. Rolles, A. Rudenko, P. Schmidt, J. Siebert, N. Strenger, D. Trabert, I. Vela-Perez, R. Wagner, T. Weber, J.B. Williams, P. Ziolkowski, L.Ph.H. Schmidt, A. Czasch, F. Trinter, M. Meyer, K. Ueda, Ph.V. Demekhin, and T. Jahnke  
Photoelectron diffraction imaging of a molecular break-up using an X-ray free-electron laser  
*Phys.Rev.X* 10, 021052 (2020)
- [39] T. Jahnke, U. Hergenhahn, B. Winter, R. Dörner, U. Frühling, P.V. Demekhin, K. Gokhberg, L.S. Cederbaum, A. Ehresmann, A. Knie, and A. Dreuw  
Interatomic and Intermolecular Coulombic Decay  
*Chemical Reviews* 120, 1129511369 (2020)
- [40] L. Kaiser, K. Fehre, N.M. Novikovskiy, J. Stindl, D. Tsitsonis, G. Gopakumar, I. Unger, J. Söderström, O. Björneholm, M.S. Schöffler, T. Jahnke, R. Dörner, F. Trinter, and P.V. Demekhin  
Angular emission distribution of O 1s photoelectrons of uniaxially oriented methanol  
*J.Phys.B.* 53, 194002 (2020)
- [41] S. Eckart, D. Trabert, K. Fehre, A. Geyer, J. Rist, K. Lin, F. Trinter, L. Ph. H. Schmidt, M. S. Schöffler, T. Jahnke, M. Kunitski, R. Dörner  
Sideband modulation by subcycle interference  
*Phys. Rev. A*, 102, 043115 (2020)
- [42] K.A. Larsen, T.N. Rescigno, T. Severt, Z.L. Streeter, W. Iskandar, S. Heck, A. Gatton, E.G. Champenois, R. Strom, B. Jochim, D. Reedy, D. Call, R. Moshhammer, R. Dörner, A.L. Landers, J.B. Williams, C.W. McCurdy, R. R. Lucchese, I. Ben-Itzhak, D.S. Slaughter and T. Weber  
Photoelectron and fragmentation dynamics of the  $H^{++}H^+$  dissociative channel in  $NH_3$  following direct single-photon double ionization  
*Phys.Rev.Res.* 2, 043056 (2020)
- [43] K. Larsen, T.N. Rescigno, Z. Streeter, W. Iskandar, S. Heck, A. Gatton, E. Champenois, T. Severt, R. Strom, B. Jochim, D. Reedy, D. Call, R. Moshhammer, R. Dörner, A. Landers, J.B. Williams, W.C. McCurdy, R. Lucchese, I. Ben-Itzhak, D. Slaughter, and T. Weber  
Mechanisms and dynamics of the  $NH_2^+ + H^+$  and  $NH^+ + H^+ + H$  fragmentation channels upon single-photon double ionization of  $NH_3$   
*J.Phys.B.* 53, 244003 (2020)

- [44] S. Grundmann, V. Serov, F. Trinter, K. Fehre, N. Strenger, A. Pier, M. Kircher, D. Trabert, M. Weller, J. Rist, L. Kaiser, A. Bray, L. Schmidt, J. Williams, T. Jahnke, R. Dörner, M. Schöffler, A. Kheifets  
Revealing the two-electron cusp in the ground states of He and  $H_2$  via quasifree double photoionization  
*Phys.Rev.Res.* 2, 033080 (2020)
- [45] A. Pier, K. Fehre, S. Grundmann, I. Vela-Perez, N. Strenger, M. Kircher, D. Tsitsonis, J.B. Williams, A. Senftleben, T. Baumert, M. S. Schöffler, P. Demekhin, F. Trinter, T. Jahnke, R. Dörner  
Chiral photoelectron angular distributions from ionization of achiral atomic and molecular species  
*Phys.Rev.Res.* 2, 033209 (2020)
- [46] H. Kang, A. S. Maxwell, D. Trabert, X. Lai, S. Eckart, M. Kunitski, M. Schöffler, T. Jahnke, X. Bian, R. Dörner, C. Figueira de Morisson Faria  
Holographic detection of parity in atomic and molecular orbitals  
*Phys.Rev.A*, 102, 013109 (2020)
- [47] A. Khan, D. Trabert, S. Eckart, M. Kunitski, T. Jahnke, R. Dörner  
Orientation-dependent dissociative ionization of  $H_2$  in strong elliptic laser fields: Modification of the release time through molecular orientation  
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**Patents**

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- [430] Bestimmung der Carrier-Envelope Phase (CEP) eines ultrakurzen Laserpulses  
German Patent DE102004054408B4 published 31.05.2007
- [431] Verfahren und hochauflösendes Impulsmikroskop zum Nachweis geladener Teilchen  
Method for observing dynamic processes in atomic or molecular systems  
German Patent DE000019740807A1 published 25.03.1999
- [432] Verfahren und Vorrichtung zur Herstellung eines Energiespeicherbausteins  
Energy storage component production  
German Patent DE000019705520A1 published 20.08.1998
- [433] Verfahren zum Darstellen dynamischer Prozesse zwischen einem Target und einem feinen Projektilstrahl in atomaren und/oder molekularen Dimensionen sowie eine dazu verwendete Mikroskopeinrichtung  
Dynamic process representation method for atomic and/or molecular system  
German Patent DE000019604472C1 published 02.10.1997