

# Thomas Elsaesser

## Publications in refereed journals and books

*October 16, 2018*

487. **Ultrafast vibrational relaxation and energy dissipation of hydrated excess protons in polar solvents**  
A. Kundu, F. Dahms, B. P. Fingerhut, E. T. J. Nibbering, E. Pines, and T. Elsaesser  
Chem. Phys. Lett. **713**, 111 (2018)
486. **Generation of millijoule few-cycle pulses at 5  $\mu\text{m}$  by indirect spectral shaping of the idler in an optical parametric chirped pulse amplifier**  
M. Bock, L. von Grafenstein, U. Griebner, and T. Elsaesser  
J. Opt. Soc. Am B **35**, C18 (2018)
485. **Macroscopic electric polarization and microscopic electron dynamics: quantitative insight from femtosecond x-ray diffraction**  
C. Hauf, M. Woerner, and T. Elsaesser  
Phys. Rev. B **98**, 054306 (2018, Editor's Suggestion)
484. **Ultrafast carrier dynamics in a GaN/Al<sub>0.18</sub>Ga<sub>0.82</sub>N superlattice**  
F. Mahler, J. W. Tomm, K. Reimann, M. Woerner, T. Elsaesser, C. Flytzanis, V. Hoffmann, and M. Weyers  
Phys. Rev. B **97**, 161303(R) (2018)
483. **Soft-mode driven polarity reversal in ferroelectrics mapped by ultrafast x-ray diffraction**  
C. Hauf, A.-A. Hernandez Salvador, M. Holtz, M. Woerner, and T. Elsaesser  
Struct. Dyn. **5**, 024501 (2018)
482. **Multidimensional terahertz spectroscopy**  
M. Woerner, K. Reimann, and T. Elsaesser  
in: Encyclopedia of Modern Optics, 2nd ed., R. D. Guenther, D. G. Steel (Eds.), vol. 2, pp. 197-206 (2018)
481. **Vibrational dynamics and couplings of the hydrated RNA backbone - a two-dimensional infrared study**  
E. M. Bruening, J. Schauss, T. Siebert, B. F. Fingerhut, and T. Elsaesser  
J. Phys. Chem. Lett. **9**, 583 (2018)
480. **Spectral anomalies and Gouy rotation around the singularity of ultra-short vortex pulses**  
M. Liebmann, A. Treffer, M. Bock, T. Elsaesser, and R. Grunwald  
Opt. Express **25**, 26076 (2017)
479. **Editorial: Im Atomkino**  
T. Elsaesser  
Physik in unserer Zeit **48**, 263 (2017)

478. **5  $\mu\text{m}$ , few-cycle pulses with multi-gigawatt peak power at a 1 kHz repetition rate**  
L. von Grafenstein, M. Bock, D. Ueberschaer, K. Zawilski, P. Schunemann, U. Griebner, and T. Elsaesser  
*Opt. Lett.* **42**, 3796 (2017)
477. **Water librations in the hydration shells of phospholipids**  
G. Folpini, T. Siebert, M. Woerner, S. Abel, D. Laage, and T. Elsaesser  
*J. Phys. Chem. Lett.* **8**, 4492 (2017)
476. **Strong local-field enhancement of the nonlinear soft-mode response in a molecular crystal**  
G. Folpini, K. Reimann, M. Woerner, T. Elsaesser, J. Hoja, and A. Tkatchenko  
*Phys. Rev. Lett.* **119**, 097404 (2017)
475. **Water dynamics in the hydration shells of biomolecules**  
D. Laage, T. Elsaesser, and J. T. Hynes  
*Chem. Rev.* **117**, 10694 (2017)
474. **Introduction: Ultrafast processes in chemistry**  
T. Elsaesser  
*Chem. Rev.* **117**, 10621 (2017)
473. **Large-amplitude motion of hydrated excess protons mapped by ultrafast 2D IR spectroscopy**  
F. Dahms, B. P. Fingerhut, E. T. J. Nibbering, E. Pines, and T. Elsaesser  
*Science* **357**, 491 (2017)
472. **Towards shot-noise limited diffraction experiments with table-top femtosecond hard x-ray sources**  
M. Holtz, C. Hauf, J. Weisshaupt, A. A. Hernandez Salvador, M. Woerner, and T. Elsaesser  
*Struct. Dyn.* **4**, 054304 (2017)
471. **Molecular couplings and energy exchange between DNA and water mapped by femtosecond infrared spectroscopy of backbone vibrations**  
Y. Liu, B. Guchhait, T. Siebert, B. P. Fingerhut, and T. Elsaesser  
*Struct. Dyn.* **4**, 044015 (2017)
470. **Perspective: Structure and ultrafast dynamics of biomolecular hydration shells**  
D. Laage, T. Elsaesser, and J. T. Hynes  
*Struct. Dyn.* **4**, 044018 (2017)
469. **Ultrafast modulation of electronic structure by coherent phonon excitations**  
J. Weisshaupt, A. Rouzée, M. Woerner, M. J. J. Vrakking, T. Elsaesser, E. L. Shirley, and A. Borgschulte  
*Phys. Rev. B* **95**, 081101(R) (2017)
468. **Nonlinear terahertz spectroscopy on multilayer graphene**  
M. Woerner, T. Elsaesser, and K. Reimann  
in: *Optical Properties of Graphene*, R. Binder (Ed.), p. 269, World Scientific, Singapore 2016

467. **Ho:YLF chirped pulse amplification at kilohertz repetition rates - 4.3 ps pulses at 2  $\mu\text{m}$  with GW peak power**  
L. von Grafenstein, M. Bock, D. Ueberschaer, U. Griebner, and T. Elsaesser  
*Opt. Lett.* **41**, 4668 (2016)
466. **Predominance of short range Coulomb forces in phosphate-water interactions - a theoretical analysis**  
B. P. Fingerhut, R. Costard, and T. Elsaesser  
*J. Chem. Phys.* **145**, 115101 (2016)
465. **Shift-current induced strain waves in  $\text{LiNbO}_3$  mapped by femtosecond x-ray diffraction**  
M. Holtz, C. Hauf, A. Hernandez-Salvador, R. Costard, M. Woerner, and T. Elsaesser  
*Phys. Rev. B* **94**, 104302 (2016)
464. **Range, magnitude and ultrafast dynamics of electric fields at the hydrated DNA surface**  
T. Siebert, B. Guchhait, Y. Liu, B. P. Fingerhut, and T. Elsaesser  
*J. Phys. Chem. Lett.* **7**, 3131 (2016, Spotlight paper)
463. **The hydrated excess proton in the Zundel cation  $\text{H}_5\text{O}_2^+$ : the role of ultrafast solvent fluctuations**  
F. Dahms, R. Costard, E. Pines, E. T. J. Nibbering, B. P. Fingerhut, and T. Elsaesser  
*Angewandte Chemie Int. Ed.* **55**, 10600 (2016)
462. **Phase-resolved two-dimensional terahertz spectroscopy including off-resonant interactions beyond the  $\chi^{(3)}$  limit**  
C. Somma, G. Folpini, K. Reimann, M. Woerner, and T. Elsaesser  
*J. Chem. Phys.* **144**, 184202 (2016)
461. **Shortwave infrared (SWIR) emission from 450 nm InGaN diode lasers**  
R. Kernke, M. Hempel, J. W. Tomm, T. Elsaesser, B. Stojetz, H. König, and U. Strauß  
*Opt. Mat. Express* **6**, 2139 (2016)
460. **Two-phonon quantum coherences in indium antimonide studied by non-linear two-dimensional terahertz spectroscopy**  
C. Somma, G. Folpini, K. Reimann, M. Woerner, and T. Elsaesser  
*Phys. Rev. Lett.* **116**, 177401 (2016)
459. **Ultrafast vibrational energy flow in water monomers in acetonitrile**  
F. Dahms, R. Costard, E. T. J. Nibbering, and T. Elsaesser  
*Chem. Phys. Lett.* **652**, 50 (2016, Editor's Choice)
458. **Strong amplification of coherent acoustic phonons by intraminiband currents in a semiconductor superlattice**  
K. Shinokita, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis  
*Phys. Rev. Lett.* **116**, 075504 (2016, Editor's suggestion)

457. **Transient surface modifications during singular heating events at diode laser facets**  
M. Hempel, J. W. Tomm, A. Bachmann, C. Lauer, M. Furitsch, U. Strauß, and T. Elsaesser  
Semicond. Sci. Technol. **31**, 055007 (2016)
456. **Taming chaos: 16 mJ picosecond Ho:YF regenerative amplifier with 0.7 kHz repetition rate**  
L. von Grafenstein, M. Bock, G. Steinmeyer, U. Griebner, and T. Elsaesser  
Laser Photon. Rev. **10**, 123 (2016)
455. **Ultrafast vibrational dynamics of the DNA backbone at different hydration levels mapped by two-dimensional infrared spectroscopy**  
B. Guchhait, Y. Liu, T. Siebert, and T. Elsaesser  
Struct. Dyn. **3**, 043202 (2016)
454. **Long-term aging and quick stress-testing of 980-nm single-spatial mode lasers**  
M. Hempel, J. W. Tomm, D. Venables, V. Rossin, E. Zucker, and T. Elsaesser  
J. Lightwave Technol. **33**, 4450 (2015)
453. **Picosecond 34 mJ pulses at kHz repetition rates from a Ho:YLF amplifier at 2  $\mu\text{m}$  wavelength**  
L. von Grafenstein, M. Bock, D. Ueberschaer, U. Griebner, and T. Elsaesser  
Opt. Express **23**, 33142 (2015)
452. **Ultrafast nonlinear response of bulk plasmons in highly doped ZnO layers**  
T. Tyborski, S. Kalusniak, S. Sadofev, F. Henneberger, M. Woerner, and T. Elsaesser  
Phys. Rev. Lett. **115**, 147401 (2015)
451. **Nonresonant coherent control: Intersubband excitations manipulated by a nonresonant terahertz pulse**  
G. Folpini, D. Morrill, C. Somma, K. Reimann, M. Woerner, T. Elsaesser, and K. Biermann  
Phys. Rev. B **92**, 085306 (2015)
450. **Anharmonic backbone vibrations in ultrafast processes at the DNA-water interface**  
T. Siebert, B. Guchhait, Y. Liu, R. Costard, and T. Elsaesser  
J. Phys. Chem. B **119**, 9670 (2015)
449. **Ultra-broadband terahertz pulses generated in the organic crystal DSTMS**  
C. Somma, G. Folpini, J. Gupta, K. Reimann, M. Woerner, and T. Elsaesser  
Opt. Lett. **40**, 3404 (2015)
448. **Kinetics of catastrophic optical damage in GaN-based diode lasers**  
M. Hempel, J. W. Tomm, B. Stojetz, H. König, U. Strauss, and T. Elsaesser  
Semicond. Sci. Technol. **30**, 072001 (2015)
447. **High-energy multi-kilohertz Ho-doped regenerative amplifiers around 2  $\mu\text{m}$**   
L. von Grafenstein, M. Bock, U. Griebner, and T. Elsaesser  
Opt. Express **23**, 14744 (2015)

446. **Focus: Phase-resolved nonlinear terahertz spectroscopy - from charge dynamics in solids to molecular excitations in liquids**  
T. Elsaesser, K. Reimann, and M. Woerner  
J. Chem. Phys. **142**, 212301 (2015, invited paper)
445. **Nanoscale transport of surface excitons at the interface between ZnO and a molecular monolayer**  
S. Friede, S. Kuehn, S. Sadofev, S. Blumstengel, F. Henneberger, and T. Elsaesser  
Phys. Rev. B **91**, 121415(R) (2015)
444. **Theoretical analysis of hard x-ray generation by nonperturbative interaction of ultrashort light pulses with a metal**  
J. Weisshaupt, V. Juvé, M. Holtz, M. Woerner, and T. Elsaesser  
Struct. Dyn. **2**, 024102 (2015)
443. **Ultrafast phosphate hydration dynamics in bulk H<sub>2</sub>O**  
R. Costard, T. Tyborski, B. P. Fingerhut, and T. Elsaesser  
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442. **Non-instantaneous polarization dynamics in dielectric media**  
M. Hofmann, J. Hyyti, S. Birkholz, M. Bock, S. K. Das, R. Grunwald, M. Hoffmann, T. Nagy, A. Demircan, M. Jupé, D. Ristau, U. Morgner, C. Brée, M. Woerner, T. Elsaesser, and G. Steinmeyer  
Optica **2**, 151 (2015)
441. **Wasser und Biomoleküle: Ultraschnelle Dynamik von Strukturen und Schwingungen**  
T. Elsaesser  
Chemie in unserer Zeit **49**, 48 (2015)
440. **Hydrated phospholipid surfaces probed by ultrafast 2D spectroscopy of phosphate vibrations**  
R. Costard, I. A. Heisler, and T. Elsaesser  
in: Ultrafast Phenomena XIX, K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 301
439. **Ultrafast terahertz response of lithium niobate in the nonperturbative regime**  
C. Somma, K. Reimann, C. Flytzanis, M. Woerner, T. Elsaesser  
in: Ultrafast Phenomena XIX, K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 620
438. **Sub-100 fs mid-infrared pulses as driver for a table-top hard x-ray source**  
J. Weisshaupt, V. Juvé, M. Holtz, S. Ku, M. Woerner, T. Elsaesser, S. Alisauskas, A. Pugzlys, A. Baltuska  
in: Ultrafast Phenomena XIX, K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 770
437. **Field-induced dynamics of correlated electrons in LiH and NaBH<sub>4</sub>**  
V. Juvé, M. Holtz, F. Zamponi, M. Woerner, T. Elsaesser, A. Borgschulte  
in: Ultrafast Phenomena XIX, K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 241

436. **High-brightness table-top hard x-ray source driven by sub-100 fs mid-infrared pulses**  
J. Weisshaupt, V. Juvé, S. Ku, M. Holtz, M. Woerner, T. Elsaesser, S. Alisauskas, A. Pugzlys, and A. Baltuska  
Nature Photon. **8**, 927 (2014)
435. **Femtosecond x-ray diffraction maps field-driven charge dynamics in ionic crystals**  
M. Woerner, M. Holtz, V. Juvé, T. Elsaesser, and A. Borgschulte  
Faraday Discuss. **171**, 373 (2014)
434. **Spatio-temporal coherence mapping of few-cycle vortex pulses**  
R. Grunwald, T. Elsaesser, and M. Bock  
Sci. Rep. **4**, 7148 (2014)
433. **Nano-optical analysis of GaN-based diode lasers**  
S. Friede, S. Kuehn, J. W. Tomm, V. Hoffmann, U. Zeimer, M. Weyers, M. Kneissl, and T. Elsaesser  
Semicond. Sci. Technol. **29**, 112001 (2014)
432. **Short-wavelength infrared defect emission as a probe of degradation processes in 980 nm single mode diode lasers**  
M. Hempel, J. W. Tomm, F. Yue, M. A. Bettiati, and T. Elsaesser  
Laser Photon. Rev. **8**, L59 (2014)
431. **Ultrafast vibrational dynamics of  $\text{BH}_4^-$  ions in liquid and crystalline environments**  
T. Tyborski, R. Costard, M. Woerner, and T. Elsaesser  
J. Chem. Phys. **141**, 034506 (2014)
430. **High field terahertz bulk photovoltaic effect in lithium niobate**  
C. Somma, K. Reimann, C. Flytzanis, T. Elsaesser, and M. Woerner  
Phys. Rev. Lett. **112**, 146602 (2014)
429. **Ultrafast terahertz response of multi-layer graphene in the non-perturbative regime**  
P. Bowlan, E. Martinez-Moreno, K. Reimann, T. Elsaesser, and M. Woerner  
Phys. Rev. B **89**, 041408(R) (2014)
428. **Structural dynamics of hydrated phospholipid surfaces probed by ultrafast 2D spectsroscopy of phosphate vibrations**  
R. Costard, I. A. Heisler, and T. Elsaesser  
J. Phys. Chem. Lett. **5**, 506 (2014)
427. **Terahertz radiative coupling and damping in multilayer graphene**  
P. Bowlan, E. Martinez-Moreno, K. Reimann, M. Woerner, and T. Elsaesser  
New J. Phys. **16**, 013027 (2014)
426. **Perspective: Structural dynamics in condensed matter mapped by femtosecond x-ray diffraction**  
T. Elsaesser and M. Woerner  
J. Chem. Phys. **140**, 020901 (2014, invited paper)

425. **Femtosecond OH bending dynamics of water nanopools confined in reverse micelles**  
R. Costard and T. Elsaesser  
J. Phys. Chem. B **117**, 15338 (2013) (M. D. Fayer Festschrift)
424. **Field-driven dynamics of correlated electrons in LiH and NaBH<sub>4</sub> revealed by femtosecond x-ray diffraction**  
V. Juvé, M. Holtz, F. Zamponi, M. Woerner, T. Elsaesser, and A. Borgschulte  
Phys. Rev. Lett. **111**, 217401 (2013)
423. **Ultrafast two-dimensional infrared spectroscopy of guanine-cytosine base pairs in DNA oligomers**  
C. Greve and T. Elsaesser  
J. Phys. Chem. B **117**, 14009 (2013)
422. **Surface excitons on a ZnO (000-1) thin film**  
S. Kuehn, S. Friede, S. Sadofev, S. Blumstengel, F. Henneberger, and T. Elsaesser  
Appl. Phys. Lett. **103**, 191909 (2013)
421. **Microscopic origins of catastrophic optical damage in diode lasers**  
M. Hempel, J. W. Tomm, F. La Mattina, I. Ratschinski, M. Schade, I. Shorubalko, M. Stiefel, H. S. Leipner, F. M. Kießling, and T. Elsaesser  
IEEE J. Sel. Topics Quant. Electron. **19**, 1500508 (2013)
420. **Ultrafast inter-ionic charge transfer of transition-metal complexes mapped by femtosecond x-ray powder diffraction**  
B. Freyer, F. Zamponi, V. Juve, J. Stingl, M. Woerner, T. Elsaesser, and M. Chergui  
J. Chem. Phys. **138**, 144504 (2013)
419. **Ultrafast vibrational dynamics of hydrogen bonded dimers and base pairs**  
T. Elsaesser  
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418. **Ultrafast two-dimensional terahertz spectroscopy of elementary excitations in solids**  
M. Woerner, W. Kuehn, P. Bowlan, K. Reimann, and T. Elsaesser  
New J. Phys. **15**, 025039 (2013)
417. **An environmental cell for transient spectroscopy on solid samples in controlled atmospheres**  
J. Dwyer, L. Szyc, E. T. J. Nibbering, and T. Elsaesser  
Rev. Sci. Instrum. **84**, 036101 (2013)
416. **N-H stretching vibrations of guanosine-cytidine base pairs in solution: ultrafast dynamics, couplings and lineshapes**  
H. Fidder, M. Yang, E. T. J. Nibbering, T. Elsaesser, K. Röttger, and F. Temps  
J. Phys. Chem. A **117**, 845 (2013)
415. **N-H stretching excitations in adenosine-thymidine base pairs in solution: pair geometries, infrared line shapes and ultrafast vibrational dynamics**  
C. Greve, N. Prekretes, H. Fidder, R. Costard, B. Koeppe, I. Heisler, S. Mukamel, F. Temps, E. T. J. Nibbering, and T. Elsaesser  
J. Phys. Chem. A **117**, 594 (2013)

414. **Photophysics of hydrogen bonded diarylethene dimers in the liquid phase**  
S. Kuehn, S. Friede, M. Zastrow, K. Schiebler, K. Rueck-Braun, and T. Elsaesser  
Chem. Phys. Lett. **555**, 206 (2013)
413. **Ultrafast structural and vibrational dynamics of the hydration shell around DNA**  
T. Elsaesser, L. Szyc, and M. Yang  
in: Ultrafast Phenomena XVIII, M. Chergui, A. Taylor, S. Cundiff, R. de Vivie-Riedle, K. Yamagouchi (Eds.), EDP Sciences, Les Ulis 2013, p. 06004/1-3
412. **Ultrafast vibrational dynamics of water confined in phospholipid reverse micelles**  
R. Costard, C. Greve, N. E. Levinger, E. T. J. Nibbering, and T. Elsaesser  
in: Ultrafast Phenomena XVIII, p. 06003/1-3 (2013)
411. **Ultrafast IR pump-probe and 2D-IR photon echo spectroscopy of adenosine-thymidine base pairs**  
C. Greve, N. K. Preketes, R. Costard, B. Koeppe, H. Fidder, E. T. J. Nibbering, F. Temps, S. Mukamel, and T. Elsaesser  
in: Ultrafast Phenomena XVIII, p. 05019/1-3 (2013)
410. **Ultrafast charge relocation in an ionic crystal probed by femtosecond x-ray powder diffraction**  
M. Woerner, F. Zamponi, P. Rothhardt, J. Stingl, and T. Elsaesser  
in: Ultrafast Phenomena XVIII, p. 03021/1-3 (2013)
409. **Femtosecond x-ray diffraction using the rotating crystal method**  
B. Freyer, J. Stingl, F. Zamponi, M. Woerner, and T. Elsaesser  
in: Ultrafast Phenomena XVIII, p. 12004/1-3 (2013)
408. **Ultrafast inter-ionic charge transfer of transition-metal complexes mapped by femtosecond x-ray powder diffraction**  
F. Zamponi, B. Freyer, V. Juv, J. Stingl, M. Woerner, M. Chergui, and T. Elsaesser  
in: Ultrafast Phenomena XVIII, p. 05046/1-3 (2013)
407. **Transition from ballistic to drift motion in high-field transport in GaAs**  
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis  
in: Ultrafast Phenomena XVIII, p. 04002/1-3 (2013)
406. **Ultrafast two-dimensional THz spectroscopy of graphene**  
P. Bowlan, E. Martinez Moreno, K. Reimann, M. Woerner, and T. Elsaesser  
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405. **Ultrafast energy dissipation into local hydration shells of phospholipids - a 2D infrared study**  
R. Costard, C. Greve, I. A. Heisler, and T. Elsaesser  
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404. **Ultrahigh single-spatial-mode pulses power from 980 nm emitting diode lasers**  
M. Hempel, J. W. Tomm, T. Elsaesser, and M. Bettiati  
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403. **Reconstruction of defect creation sequences in diode lasers**  
M. Hempel, J. W. Tomm, V. Hortelano, N. Michel, J. Jimenez, M. Krakowski, and T. Elsaesser  
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402. **Strong-field electron transfer in a virtual quantum state mapped by femtosecond x-ray diffraction**  
J. Stingl, F. Zamponi, B. Freyer, M. Woerner, T. Elsaesser, and A. Borgschulte  
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401. **X-rays inspire electron movies**  
M. J. J. Vrakking and T. Elsaesser  
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400. **N-H stretching modes of adenosine monomer in solution studied by ultrafast nonlinear infrared spectroscopy and ab-initio calculations**  
C. Greve, N. K. Prekretes, R. Costard, B. Koeppe, H. Fidder, E. T. J. Nibbering, F. Temps, S. Mukamel, and T. Elsaesser  
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399. **Photophysics of closed- and open-ring isomers of a diarylethene with a carboxylic anchor group**  
S. Kuehn, S. Friede, M. Zastrow, C. Gahl, K. Rueck-Braun, and T. Elsaesser  
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398. **Ultrafast vibrational dynamics of water confined in phospholipid reverse micelles**  
R. Costard, N. E. Levinger, E. T. J. Nibbering, and T. Elsaesser  
J. Phys. Chem. B **116**, 5752 (2012)
397. **Ultrafast soft-mode driven charge relocation in an ionic crystal**  
F. Zamponi, J. Stingl, M. Woerner, and T. Elsaesser  
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396. **Nonlinear electron transport in an electron-hole plasma**  
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis  
Phys. Rev. B **85**, 165206 (2012)
395. **Ultrafast large-amplitude relocation of electronic charge in ionic crystals**  
F. Zamponi, P. Rothhardt, J. Stingl, M. Woerner, T. Elsaesser  
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394. **Vibrational dynamics of the water shell of DNA studied by femtosecond two-dimensional infrared spectroscopy**  
M. Yang, L. Szyc, and T. Elsaesser  
J. Photochem. Photobiol. A **234**, 49 (2012)
393. **Transient charge density maps from femtosecond x-ray diffraction**  
T. Elsaesser and M. Woerner  
in: Modern Charge Density Analysis, C. Gatti, P. Macchi (Eds.), Springer, New York 2012, pp. 697-714

392. **High-field transport in an electron-hole plasma: Transition from ballistic to drift motion**  
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis  
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391. **Near-field dynamics of broad area diode laser at very high pump levels**  
M. Hempel, J. W. Tomm, M. Baeumler, H. Konstanzer, J. Mukherjee, and T. Elsaesser  
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390. **Decelerated water dynamics and vibrational couplings of hydrated DNA mapped by two-dimensional infrared spectroscopy**  
M. Yang, L. Szyc, and T. Elsaesser  
J. Phys. Chem. B **115**, 13093 (2011)
389. **Ultrafast energy migration pathways in self-assembled phospholipids interacting with confined water**  
N.E. Levinger, R. Costard, E. T. J. Nibbering, and T. Elsaesser  
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388. **Strong correlation of electronic and lattice excitations in GaAs/AlGaAs semiconductor quantum wells revealed by two-dimensional terahertz spectroscopy**  
W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and U. Schade  
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387. **Emission properties of diode laser bars during pulsed high-power operation**  
M. Hempel, J. W. Tomm, P. Hennig, and T. Elsaesser  
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386. **Highly efficient THG in TiO<sub>2</sub> nanolayers for third-order pulse characterization**  
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