

Publications



Astra

W. A. Bryan, S. L. Stebbings, J. McKenna, E. M. L. English, M. Suresh, J. Wood, B. Srigengan, I. C. E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley, J. L. Collier, I. D. Williams and W. R. Newell
Atomic excitation during recollision-free ultrafast multi-electron tunnel ionization
Nature Physics **2** (6) 379 (2006)

W. A. Bryan, S. L. Stebbings, J. McKenna, E. M. L. English, M. Suresh, J. Wood, B. Srigengan, I. C. E. Turcu, I. D. Williams and W. R. Newell
On the recollision-free excitation of krypton during ultrafast multi-electron tunnel ionization
J Phys B: At Mol Opt Phys **39** (13) S349 (2006)

C. R. Calvert, J. McKenna, W. A. Bryan, J. Wood, E. M. L. English, I. C. E. Turcu, J. M. Smith, K. Ertel, O. Chekhlov, W. R. Newell and I. D. Williams
Dynamic imaging of a dissociative D_2^+ nuclear wavepacket in intense laser fields
J Phys Conf Ser **58** 379 (2007)

F. Y. Khattak, J. J. Angulo-Gareta, P. S. Foster, R. J. Clarke and D. Riley
Photodiodes array as potential diagnostic for measuring short bursts of K-alpha radiation from Ti targets irradiated with 45 fs laser pulses
Nucl Instr Meth A **569** (3) 754 (2006)

F. Y. Khattak, O. A. M. B. P. du Sert, D. Riley, P. S. Foster, E. J. Divall, C. J. Hooker, A. J. Langley, J. Smith and P. Gibbon
Comparison of experimental and simulated K alpha yield for 400 nm ultrashort pulse laser irradiation
Phys Rev E **74** (2) 027401 Pt2 (2006)

S. P. D. Mangles, A. G. R. Thomas, M. C. Kaluza, O. Lundh, F. Lindau, A. Persson, Z. Najmudin, C.-G. Wahlström, C. D. Murphy, C. Kamperidis, K. L. Lancaster, E. Divall and K. Krushelnick
Effect of laser contrast ratio on electron beam stability in laser wakefield acceleration experiments
Plasma Phys and Contr Fusion **48** (12B) B83 (2006)

S. P. D. Mangles, A. G. R. Thomas, M. C. Kaluza, O. Lundh, F. Lindau, A. Persson, F. S. Tsung, Z. Najmudin, W. B. Mori, C.-G. Wahlström and K. Krushelnick
Laser-wakefield acceleration of monoenergetic electron beams in the first plasma-wave period
Phys Rev Letts **96** (21) 215001 (2006)

J. McKenna, C. R. Calvert, W. A. Bryan, E. M. L. English, J. Wood, D. S. Murphy, I. C. E. Turcu, J. M. Smith, K. Ertel, O. Chekhlov, E. J. Divall, J. F. McCann, W. R. Newell and I. D. Williams
Imaging quantum vibrations on an ultrashort timescale: the deuterium molecular ion
J Phys Conf Ser **58** 375 (2007)

J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E. M. L. English, S. L. Stebbings, W. Newell, I. C. E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley and J. L. Collier
Rescattering-enhanced dissociation of a molecular ion
Phys Rev A **74** (4) 043409 (2006)

J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E. M. L. English, S. L. Stebbings, W. R. Newell, I. C. E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley and J. L. Collier
Ultrafast ionization study of N_2 in intense linearly and circularly polarized laser fields
Phys Rev A **73** (4) 043401 (2006)

D. Riley, F. Y. Khattak, O. A. M. B. P. du Sert, R. J. Clarke, E. J. Divall, M. Edwards, P. S. Foster, C. J. Hooker, A. Langley, P. Mistry, D. Neely, J. Smith, C. Spindloe, G. J. Tallents and M. Tolley
Efficient K-alpha and He-alpha emission from Ti foils irradiated with 400 nm, 45 fs laser pulses
J Quant Spectr Rad Trans **99** (1-3) 537 (2006)

A. G. R. Thomas, S. P. D. Mangles, Z. Najmudin, M. C. Kaluza, C. D. Murphy and K. Krushelnick
Measurements of wave-breaking radiation from a laser-wakefield accelerator
Phys Rev Letts **98** (5) 054802 (2007)

A. G. R. Thomas, Z. Najmudin, S. P. D. Mangles, C. D. Murphy, A. E. Dangor, C. Kamperidis, K. L. Lancaster, W. B. Mori, P. A. Norreys, W. Rozmus, and K. Krushelnick
Effect of laser-focusing conditions on propagation and monoenergetic electron production in laser-wakefield accelerators
Phys Rev Letts **98** (9) 095004 (2007)

ASTRA – In Press

J. McKenna, W. A. Bryan, C. R. Calvert, E. M. L. English, J. Wood, D. S. Murphy, I. C. E. Turcu, J. M. Smith, K. Ertel, O. Chekhlov, E. J. Divall, J. F. McCann, W. R. Newell and I. D. Williams
Observing time-dependent vibrational quantum dynamics in deuterium hydride molecular ions
J Mod Opt **54** 1127 (2007)

J. McKenna, M. Suresh, D. S. Murphy, W. A. Bryan, L.-Y. Peng, S. L. Stebbings, E. M. L. English, J. Wood, B. Srigengan, I. C. E. Turcu, J. L. Collier, J. F. McCann, W. R. Newell and I. D. Williams
Intense-field dissociation dynamics of D_2^+ molecular ions using ultrafast laser pulses
J Phys B: At Mol Opt Phys **40** (13) 2607 (2007)

D. S. Murphy, J. McKenna, C. R. Calvert, W. A. Bryan, E. M. L. English, J. Wood, I. C. E. Turcu, W. R. Newell, I. D. Williams and J. F. McCann
Controlling dissociation processes in the D_2^+ molecular ion using highintensity, ultrashort laser pulses
J Phys B: At Mol Opt Phys **40** (11) S359 (2007)

P. A. Orr, I. D. Williams, J. B. Greenwood, I. C. E. Turcu, W. A. Bryan, J. Pedregosa-Gutierrez and C. W. Walter
Above threshold dissociation of vibrationally cold HD^+ molecules
Phys Rev Letts **98** (16) 163001 (2007)

R. Torres, N. Kajumba, J. G. Underwood, J. S. Robinson, S. Baker, J. W. G. Tisch, R. de Nalda, W. A. Bryan, R. Velotta, C. Altucci, I. C. E. Turcu and J. P. Marangos
Probing orbital structure of polyatomic molecules by high-order harmonic generation
Phys Rev Letts **98** (20) 203007 (2007)

Lasers for Science Facility

JOURNAL PUBLICATIONS BOOKS AND PUBLISHED PROCEEDINGS

- W. Z. Alsindi, T. L. Eason, X. Z. Sun, K. L. Ronayne, M. Towrie, J. M. Herrera, M. W. George and M. D. Ward
Probing the excited states of d^6 metal complexes containing the 2,2'-bipyrimidine ligand using time-resolved infrared spectroscopy I: Mononuclear and homodinuclear systems
Inorg Chem **46**(9) 3696-3704 (2007)
- R. Baker, P. Matousek, K. L. Ronayne, A. W. Parker, K. Rogers and N. Stone
Depth profiling of calcifications in breast tissue using picosecond Kerr-gated Raman spectroscopy
Analyst **132** 48-53 (2007)
- J. Buajarern, L. Mitchem, A. D. Ward, N. H. Nahler, D. McGloin and J. P. Reid
Controlling and characterising the coagulation of liquid aerosol droplets
J Chem Phys **125** 114506-1 - 114506-10 (2006)
- M. Busby, P. Matousek, M. Towrie and A. Vlcek Jr
Ultrafast excited-state dynamics of photoisomerizing complexes fac-[Re(Cl)(CO)₃(papy)₂] and fac-[Re(papy)(CO)₃(bpy) + (papy = trans-4-phenylazopyridine)]
Inorg Chim Acta **360** 885-896 (2007)
- A. Carvalho, G. Hancock and M. Saunders
The reaction products of the 193nm photolysis of vinyl bromide and vinyl chloride studied by time-resolved Fourier transform infrared emission spectroscopy
PCCP **8** 4337-4346 (2006)
- O. V. Chekhlov, J. L. Collier, I. N. Ross, P. K. Bates, M. Notley, C. Hernandez-Gomez, W. Shaikh, C. N. Danson, D. Neely, P. Matousek and S. Hancock
35 J broadband femtosecond optical parametric chirped pulse amplification system
Optics Lett **31**(24) 3665-3667 (2006)
- P. A. Cleary, M. T. B. Romero, M. A. Blitz, D. E. Heard, M. J. Pilling, P. W. Seakins and L. Wang
Determination of the temperature and pressure dependence of the reaction OH + C₂H₄ from 200-400 K using experimental and master equation analyses
PCCP **8** 5633-5642 (2006)
- A. J. Cowan, P. Portius, H. K. Kawanami, O. S. Jina, D. C. Grills, X. Z. Sun, J. McMaster and M. W. George
Time-resolved infrared (TRIR) study on the formation and reactivity of organometallic methane and ethane complexes in room temperature solution
PNAS **104**(17) 6933-6938 (2007)
- C. Eliasson and P. Matousek
Noninvasive authentication of pharmaceutical products through packaging using spatially offset Raman spectroscopy
Anal Chem (79) 1696-1701 (2007)
- S. P. Foxon, T. Phillips, M. R. Gill, M. Towrie, A. W. Parker, M. Webb and J. A. Thomas
A multifunctional light switch: DNA binding and cleavage properties of a heterobimetallic ruthenium-rhenium dipyridophenazine complex
Angew Chem Int Ed **46** 3686-3688 (2007)
- A. Gabrielsson, M. Busby, P. Matousek, M. Towrie, E. Hevia, L. Cuesta, J. Perez, S. Zalis and A. Vlcek Jr
Electronic structure and excited states of rhenium(I) Amido and phosphido carbonyl-bipyridine complexes studied by picosecond time-resolved IR spectroscopy and DFT calculations
Inorg Chem **45** (24) 9789-9797 (2006)
- K. Gallo, C. B. E. Gawith, I. T. Wellington, S. Mailis, R. W. Eason, P. G. R. Smith and D. J. Richardson
Ultraviolet writing of channel waveguides in proton-exchanged LiNbO₃
J of App Phys **101** 014110 (2007)
- K. Ghandi, I. P. Clark, J. S. Lord and S. P. Cottrell
Laser-muon spin spectroscopy in liquids-A technique to study the excited state chemistry of transients
PCCP **9** 353-359 (2007)
- G. Hancock, M. Morrison and M. Saunders
Vibrational relaxation of NO ($\nu=1-16$) in collisions with O₂ studied by time resolved Fourier transform infrared emission
Chem Phys Lett **425** 216-220 (2006)
- A. S. Jaaskelainen, A. M. Saariaho, J. Vyorykka, T. Vuorinen, P. Matousek and A. W. Parker
Application of UV-Vis and resonance Raman spectroscopy to study bleaching and photoyellowing of thermomechanical pulps
Holzforchung **60** 231-238 (2006)
- R. A. Jockusch, F. O. Talbot, P. S. Rogers, M. I. Simone, G. W. J. Fleet and J. P. Simons
Carbohydrate amino acids: The intrinsic conformational preference for a β -turn-type structure in a carbopetoid building block
J Am Chem Soc **128** 16771-16777 (2006)
- M. Kondo, J. Nappa, K. L. Ronayne, A. L. Stelling, P. J. Tonge and S. R. Meech
Ultrafast vibrational spectroscopy of the flavin chromophore
J Phys Chem B **110** (41) 20107-20110 (2006)
- V. V. Kruglyak, R. J. Hicken, P. Matousek and M. Towrie
Spectroscopic study of optically induced ultrafast electron dynamics in gold
Phys Rev B **75** 034510 (2007)
- T. Lazarides, M. A. H. Alamiry, H. Adams, S. J. A. Pope, S. Faulkner, J. A. Weinstein and M. D. Ward
Anthracene as a sensitizer for near-infrared luminescence in complexes of Nd(III) Er(III) and Yb(III): an unexpected sensitisation mechanism based on electron transfer
Dalt Trans 1484-1491 (2007)

- S. Lepadatu, J. Wu, C. Bunce, X. Zou, D. Niu, Y. B. Xu, R. Chantrell and G. P. Ju
Ultrafast optically induced spin dynamics in patterned single crystal Fe dot arrays
J Appl Phys **101** 09C111 (2007)
- J. D. Lewis, I. P. Clark and J. N. Moore
Ground and excited state resonance Raman spectra of an azacrown-substituted [(bpy)Re(CO)₃L]⁺ complex: Characterisation of excited states determination of structure and bonding and observation of metal cation release from the azacrown
J Phys Chem A **111** 50-58 (2007)
- N. A. Macleod, C. Johannessen, L. Hecht, L. D. Barron and J. P. Simons
From the gas phase to aqueous solution: Vibrational spectroscopy Raman optical activity and conformational structure of carbohydrates
Intl J Mass Spec **253** 193-200 (2006)
- N. A. Macleod and J. P. Simons
Infrared photodissociation spectroscopy of protonated neurotransmitters in the gas phase
Mol Phys **104** (20) 3317 (2006)
- P. Matousek and A. W. Parker
Bulk Raman analysis of pharmaceutical tablets
Appl Spec **60** (12) 1353-1357 (2006)
- P. Matousek
Inverse spatially offset Raman Spectroscopy for deep noninvasive probing of turbid media
Appl Spec **60** (11) 1341-1347 (2006)
- P. Matousek and A. W. Parker
Non-invasive probing of pharmaceutical capsules using transmission Raman spectroscopy
J Raman Spec **38** 563-567 (2007)
- L. Mitchem, J. Buajarern, R. J. Hopkins, A. D. Ward, R. J. J. Gilham, R. L. Johnston and J. P. Reid
Spectroscopy of growing and evaporating water droplets: Exploring the variation in equilibrium droplet size with relative humidity
J Phys Chem A **110** 8116-8125 (2006)
- L. Mitchem, J. Buajarern, A. D. Ward and J. P. Reid
A strategy for characterizing the mixing state of immiscible aerosol components and the formation of multiphase aerosol particles through coagulation
J Phys Chem B **110** (28) 13700-13703 (2006)
- L. Mitchem, R. J. Hopkins, J. Buajarern, A. D. Ward and J. P. Reid
Comparative measurements of aerosol droplet growth
Chem Phys Lett **432** 362-366 (2006)
- A. C. Muir, G. J. Daniel, C. P. Please, I. T. Wellington, S. Mailis and R. W. Eason
Modelling the formation of optical waveguides produced in LiNbO₃ by laser induced thermal diffusion ions
Appl Phys A **83** 389-396 (2006)
- A. Pozo Ramajo, S. A. Petty and M. Volk
Fast folding dynamics of α -helical peptides - effect of solvent additives and pH
Chem Phys **323** 11-20 (2006)
- S. Quinn, G. W. Doorley, G. W. Watson, A. J. Cowan, M. W. George, A. W. Parker, K. L. Ronayne, M. Towrie and J. M. Kelly
Ultrafast IR spectroscopy of the short-lived transients formed by UV excitation of cytosine derivatives
Chem Comms 2130-2132 (2007)
- S. Sato, A. Sekine, Y. Ohashi, A. M. Blanco-Rodriguez, A. Vlcek jr, T. Unno and K. Koike
Photochemical ligand substitution reactions of fac-[Re(bpy)(CO)₃Cl] and derivatives
Inorg Chem **46** 3541-3540 (2007)
- J. Screen, E. C. Stanca-Kaposta, D. P. Gamblin, B. Liu, N. A. Macleod, L. C. Snoek, B. G. Davis and J. P. Simons
IR-Spectral signatures of aromatic-sugar complexes: Probing carbohydrate-protein interactions
Angew Chem Int Ed **46** 3644-3648 (2007)
- N. M. Shavaleev, H. Adams, J. Best, R. Edge, S. Navaratnam and J. A. Weinstein
Deep-red luminescence and efficient singlet oxygen generation by cyclometalated platinum(II) complexes with 8-hydroxyquinolines and Quinoline-8-thiol
Inorg Chem **45**(23) 9410-9415 (2006)
- N. M. Shaaleev, H. Adams, J. Best and J. A. Weinstein
Platinum (II) phosphine complexes with acetylene ligands containing 1, 4, 5, 8-naphthalenediimide: Synthesis crystal structure and electrochemistry
J Organo Chem **692** 921-925 (2007)
- D. Stoner-ma, E. H. Melief, J. Nappa, K. L. Ronayne, P. J. Tonge and S.R. Meech
Proton relay reaction in green fluorescent protein (GFP): Polarization-resolved ultrafast vibrational spectroscopy of isotopically edited GFP
J Phys Chem B **110** 22009-22018 (2006)
- C. A. Thomas, G. Rehm, H. L. Owen, N. G. Wyles, S. W. Botchway, V. Schlott and M. Wahl
Bunch purity measurement for Diamond
Nuclear Instruments and methods in Physics Research A **566** 762-766 (2006)
- T. D. Vaden, T. S. J. A. de Boer, N. A. Macleod, E. M. Marzluff, J. P. Simons and L. C. Snoek
Infrared spectroscopy and structure of photochemically protonated biomolecules in the gas phase: a noradrenaline analogue lysine and alanyl alanine
PCCP **9** 2549-2555 (2007)
- J. J. van Thor, K. L. Ronayne and M. Towrie
Formation of the early photoproduct Lumi-R of Cyanobacterial phytochrome Cph1 observed by ultrafast mid-infrared spectroscopy
J Am Chem Soc **129** 126-132 (2007)

- J. J. van Thor and T. Sage
Charge transfer in green fluorescent protein
Photochem Photobiol Sci **5** 597-602 (2006)
- A. Vlcek and S. Zalis
Modeling of charge-transfer transitions and excited states in d6 transition metal complexes by DFT techniques
Coord Chem Rev **251** 258-287 (2007)
- A. D. Ward, M. G. Berry, C. D. Mellor and C. D. Bain
Optical sculpture: controlled deformation of emulsion droplets with ultralpw interfacial tensions using optical tweezers
Chem Comms 4515-4517 (2006)
- I. T. Wellington, C. E. Valdivia, T. J. Sono, C. L. Sones, S. Mailis and R. W. Eason
Ordered nano-scale domains in lithium niobate single crystals via phase-mask assisted all-optical poling
App Surf Sci **253** 4215-4219 (2007)
- PUBLISHED DURING 2005/2006** (in press 2005/06)
- V. Apostolopoulos, L. M. B. Hickey, D. A. Sager and J. S. Wilkinson
Diffusion of gallium in sapphire
J Eur Ceram Soc **26** 2695-2698 (2006)
- D. E. Bergeron, A. Musgrave and T. G. Wright
Electronic spectroscopy of NO-(Rg) (x) complexes (Rg=Ne Ar) via the 4s and 3d Rydberg states
J Chem Phys **125**(14) 144319 (2006)
- S. W. Botchway, J. V. Harper, E. Leatherbarrow, A. W. Parker and P. O'Neill
Femtosecond near infrared laser microbeamtechnique for submicrometer point source for high-resolution cell DNA damage signalling and repair studies
Rad Research **166** 4 (2006)
- N. M. Stanton and A. J. Kent
Propagation of high altitude strain pulses in sapphire
Phys Rev B **73** 220301-1-220301-4 (R) (2006)
- M. Consuelo Hart Prieto, P. Matousek, M. Towrie, A. W. Parker, M. Wright, A. W. Ritchie and N. Stone
Use of picosecond Kerr-gated Raman spectroscopy to suppress signals from both surface and deep layers in bladder and prostate tissue
J Biomed Optics **10**(4) 0440061-6 2005/6??
- J. J. Van Thor, G. Y. Georgiev, M. Towrie and T. Sage
Ultrafast and low barrier motions in the photoreactions of the green fluorescent protein
J Bio Chem **280**(39) 33652-33659 (2005)
- IN PRESS AT END OF 2006/2007** (in press now)
- M. D. King, K. C. Thompson, A. D. Ward, C. Pfrang and B. Hughes
Oxidation of biogenic and water-soluble compounds in aqueous and organic aerosol droplets by ozone: A kinetic and product analysis approach using laser Raman tweezers
Faraday discussions 137 2006/07
- M. P. Collings, M. R. S. McCoustra, D. J. Burke, W. A. Brown, P. Holtom, N. J. Mason and H. J. Fraser
Desorption of hot molecules from photon irradiated interstellar ices
J Astrophys Lett Submitted (2006)
- A. G. Crisostomo, R. B. Moreno, S. Navaratnam, J. A. Wilkinson and R. H. Bisby
Generation of reactive oxygen species from a-tocopherolquinone and analogues
Free Radical Research accepted (2007)
- C. Eliasson, N. A. Macleod and P. Matousek
Non-invasive detection of concealed liquid explosives
Science Submitted (2007)
- C. Eliasson, M. Clayborn and P. Matousek
Deep subsurface Raman spectroscopy of turbid media by defocused collection system
Applied Spectroscopy Submitted (2007)
- D. P. Gamblin, J. Screen, B. Liu, L. C. Snoek, B. G. Davis and J. P. Simons
Carbohydrate molecular recognition: a spectroscopic investigation of carbohydrate-aromatic interactions
PCCP In press DOI: 10 1039/b704792d (2007)
- A. Gabrielsson, F. Hartl, H. Zhang, J. R. Lindsay Smith, M. Towrie, A. Vlcek Jr and R. N. Perutz
Sub-picosecond charge separation in a photo-reactive rhenium-appended porphyrin assembly monitored by picosecond transient infrared spectroscopy
J Am Chem Soc Submitted (2006)
- J. V. Harper, E. L. Leatherbarrow, P. Reynolds, S. W. Botchway, A. W. Parker and P. O'Neill
Development of a NIR multi-photon micro-beam: protein recruitment to DNA damage in mammalian cells
Biophysical Journal Submitted (2007)
- M. K. Kuimova, P. M. W. Gill, C. Y. Lin, P. Matousek, M. Towrie, X. Z. Sun, M. W. George and A. W. Parker
Picosecond time-resolved infrared study of 2-aminopurine ionisation in solution
Photochem Photobiol Sci Submitted DOI:10 1039/b705801b (2007)
- S. Laparatu, J. Wu, Y. Xu and R. Chantrell
Ultrafast optically induced spin dynamics in patterned single-crystal Fe dot arrays with various sizes
Phys Rev B Submitted (2007)
- P. Matousek
Review of deep non-invasive Raman spectroscopy of living tissue and powders
Chemical Society Reviews In press DOI: 10 1039/b614777c (2007)
- A. C. Muir, S. Mailis and R.W. Eason
Ultraviolet laser-induced submicron spatially resolved super-hydrophilicity on single crystal lithium niobate surfaces
J Appl Phys accepted (2007)

N. M. Shavaleev, H. Adams, J. Best and J. A. Weinstein
Catechol ligands containing aromatic carboxylic acid imides and their Pt(II) diimine complexes: synthesis spectroscopy electrochemistry and short unsupported Pt-Pt contacts in the solid state structures in donor-acceptor system
Inorg Chem in submission (2007)

K. C. Thompson, B. Hughes, M. D. King and A. D. Ward
Atmospheric oxidation of hydrophobic particles: changes in size and chemical composition
Geophysical Research Letters Submitted (2006)

CONFERENCE PRESENTATIONS

American Chemical Society 233rd National Meeting, Chicago, IL (25th-29th March 2007)
Correlation Between Side Chain Helix Propensity and Fast Folding Dynamics of α -Helical Peptides
M. Volk, A. Pozo Ramajo, J. Wang, C. Palmer, E. Fouts and E. A. Gooding

Time-Resolved Isotope-Edited Infrared Spectroscopy Reveals that the α -Helix Folds More Rapidly at the C-terminus than at the N-terminus
M. Volk, A. Pozo Ramajo, A. Starzyk, S. A. Petty and S. M. Decatur

Annual meeting of the Astrophysical Chemistry Group of the RSC & RAS: "Dust Gas and Chemistry In Space", Queen's University Belfast, Belfast, UK (4th-5th January 2007)
Probing the Gas-Grain Interaction: Applications of Laboratory Surface Science in Astrophysics
M. R. S. McCoustra

Desorption of Hot Molecules from Photon Irradiated Interstellar Ices
J. D. Thrower

Biological Molecules in the Gas Phase, Prague (Apr 2006)
L. C. Snoek and J. P. Simons

Coordination & Supramolecular Chemistry Meeting, Belfast (December 2006)
J. A. Weinstein, J. Best and M. Alamiry

Dalton regional student meeting (summer 2006)
T. Easun (prize for the best student talk)

DNA Repair Meeting: from Molecular Mechanism to Human Disease, Noordwijkerhout, Holland (2nd-7th April 2006)
Investigation into the induction of DNA damage/repair induced in mammalian cells by near infrared multi-photon absorption
J. V. Harper, E. L. Leatherbarrow, S. W. Botchway, M. Dillingham, P. Lauder, A. W. Parker and P. O'Neill

ESF-FWF Conference Biomolecules, Obergurgl, Austria (September 2006)
L. Snoek
European Union Cost D35, Lausanne (September 2006)
R. Perutz

European Union Network Meeting, Debrecen, Hungary (January 2007)
R. Perutz

European Conference on Biomolecules, Prague (April 2006)
L. Snoek

FRIS 2006 (Chester)
R. Bisby

IBBI Conference, Prague (April 2006)
L. Snoek

ICCC meeting, Cape Town (August 2006)
Keynote lecture
M. D. Ward

Poster
T. Easun

Infrared & Raman Discussion Group Meeting on Vibrational Spectroscopy in Bioscience, Manchester (17th May 2006)
Time-Resolved Isotope-Edited IR Spectroscopy Reveals Details of Fast Peptide Folding Processes
M. Volk

International Workshop "Future Prospects for Macromolecular Dynamics on 4GLS", Warrington (26th-27th January 2007)
Fast Processes of α -Helix Folding
M. Volk

International Conference on Raman Spectroscopy (ICORS), Japan (August 2006)
Subsurface Probing of Materials using Spatially Offset Raman Spectroscopy – Applications in Formulation and Medical Diagnosis
P. Matousek

IUPAC Conference on Photochemistry, Kyoto, Japan (April 2nd 2006)
Mechanism of Proton transfer in GFP
S. Meech

Studies of twisted wires
A. Beeby

Lasers for Science Facility User Meeting, Abingdon (20th-22nd November 2006)

POSTERS

Electron transfer in Re complexes with appended amino acid ligands
A. M. Blanco Rodriguez

Characterizing protonated biomolecules with infrared spectroscopy in the gas phase
T. de Boer and T. Vaden

BioMed Network Update
S. W. Botchway

Probing the mechanism of photochemical carbonylation using fast and ultrafast infrared spectroscopy

C. Brookes

Controlling and observing photoinduced processes in metal-bipyrimidine systems

T. L. Easun

SORS - A novel method for sub-surface Raman spectroscopy of tissue and powders

C. Eliasson

Femtosecond research activities at Reading

S. Hadjiloucas

ULTRA: Ultrasensitive lifescience time-resolved analysis

G. M. Greetham

Probing the Glycosidic Linkage: Competition between Intra- and Intermolecular Hydrogen Bonding in the Stabilization of Carbohydrate Conformations

C. Kaposta and E. Cocinero

Update on the Tweezers Nanoprobe project

M. Pollard

Laser ablated silver nanoparticles as substrate for SERRS spectroscopy of porphyrins

P. Smejkal

The SNURF Laboratory

S. M. Tavender

Desorption of hot molecules from photon irradiated interstellar ices

J. Thrower

The complex folding dynamics of alpha-helical peptides

M. Volk

Strategic initiatives: Probing atmospheric chemistry on single droplets

A. D. Ward

PRESENTATIONS

Depth profiling of calcifications in breast tissue using picosecond Kerr-gated Raman spectroscopy

R. Baker

Imaging molecular structure using high harmonic generation

S. Baker

Spectroscopy of 5-hydroxyindoles using multiphoton excitation

R. H. Bisby

The Biomed Network

S. W. Botchway

The Laser Microscope Laboratory

S. W. Botchway

Spin-resolved two-photon photoemission on FeB alloy

C. Cacho

Time-resolved Science in Strongly Correlated Electron Systems

A. Cavalleri

Imaging hot carrier dynamics from Ge/Si nanodots

S. A. Cavill

Developments in the Laser Loan Pool

I. Clark

Intracellular imaging of serotonin using multiphoton microscopy

A. Crisostomo

Luminescent sensors studied by ultrafast laser spectroscopy

A-K. Duhme-Klair

Domain manipulation with a light touch: light assisted poling in ferroelectrics

R. W. Eason

Probing the 3D structure of the common core of N-linked glycans

M. W. George

Investigating the DNA damage repair pathways induced by near infrared multiphoton absorption in mammalian cells

J. Harper

Stimulated Raman photoacoustic spectroscopy: a powerful tool for highly-sensitive Raman spectroscopy of gas-phase molecules at high resolution

M. Hippler

Raman micro-spectroscopy application in microbiology

W. Huang

Photochemistry of porphyrins in the gas phase

A. Hudson

Picosecond processes in DNA monitored by transient infrared absorption spectroscopy

J.M. Kelly

Generation and propagation of ultra-fast strain solitons in Sapphire Silicon & GaAs

A.J. Kent

Oxidation of organic chemicals in atmospheric aerosol studied by laser Raman Tweezers

M. D. K. King

Porphyrin dimers and oligomers for photodynamic therapy

M. Kuimova

Aberration effects in 3-D laser beam shaping

Z. J. Laczik

Investigation of furfuryl alcohol polymerisation in wood by Kerr gated Resonance Raman spectroscopy

K. L. Larson

Photophysical and photochemical properties of moxifloxacin - a fluoroquinolone antibiotic

F. Lorenzo

Taking cyanide chemistry to new lengths: PIRATE studies of cyanoacetylde complexes

P. J. Low

Epidermal growth factor signalling studied by single molecule fluorescence microscopy

M. L. Martin-Fernandez

A novel technique for sub-surface spectroscopy of tissue and powders – SORS

P. Matousek

Laboratory investigations of photoprocesses in model interstellar ices

M. R. S. McCoustra

Rewiring the green fluorescent protein

S. R. Meech

Primary photoprocesses in selected photosensitive drugs

S. Navaratnam

ULTRA

A. W. Parker

Characterising the dynamics of single aerosol particles using optical Tweezers & Raman spectroscopy

J. P. Reid

Observation of a simple vibrational wavepacket in a polyatomic molecule

K. L. Reid

Developments in the Ultrafast Spectroscopy Laboratory

K. Ronayne

Using NIR multiphoton methodology to investigate single cell DNA damage in real time

P.L. Reynolds

IRMPD of gas phase organometallics

J. Rourke

Adaptive optics for microscopy optical data storage and micromachining

M. Schwertner

Spectroscopy of molecules trapped in helium nanodroplets

A. J. Stace

Fluorescence imaging insights into cell signalling

C. Stubbs

Dinuclear heterometallic DNA metallo-intercalators

J. A. Thomas

Fluorescent markers in DNA & RNA

K. C. Thompson

Tweezers nanoprobe

M. Towrie

Strategy on the future of the Laser Loan Pool: The next 4 years EPSRC grant submission for December 2006

M. Towrie

Shedding light on the intracellular region of the Epidermal Growth Factor Receptor

C. Tynan

Infrared and X-ray studies of green fluorescent protein

J. Van Thor

Photochemical trans-cis isomerization of C=C and N=N bonds in metal-coordinated ligands

A. Vlcek

Correlation between side chain helix propensity and fast folding dynamics of alpha-helices

M. Volk

Optical sculpture: controlled deformation of emulsion droplets with ultralow interfacial tensions using optical tweezers

A. Ward

Light-induced charge separation in metal-based molecular systems

J. A. Weinstein

Excitation of micro- and nanoparticles on optical waveguides

J. Wilkinson

Applications of new highly luminescent platinum complexes

J. A. G. Williams

Photoluminescent Phosphors for Lighting and Display Applications

R. Withnall

Ultrafast spin dynamics in magnetic thin films and elements

J. Wu

MICRA-06 Conference, Durham (11th-13th September 2006)

N. M. Shavaleev, H. Adams, J. Best, R. Edge, S. Navaratnam and J. A. Weinstein

Optics-Photonics Design & Fabrication Conference 2006, Nara, Japan (6th-8th December 2006)

Control of Coupling between Waveguides and Microsphere Resonators

Y. Panitchob, G. S. Murugan, M. N. Zervas and J. S. Wilkinson

Radiation Research Society: 53rd Annual Conference, Philadelphia (5th-8th November 2006)

The Induction of DNA damage/repair responses in mammalian cells by α -particle and femto-second near infrared laser microbeam irradiation

P. O'Neill and P. L. Reynolds

Reaction Dynamics and Spectroscopy Conference, Oxford (December 2006)

Electronic Spectroscopy of HSiNC and HSiNCO

M. Dover

*Spectroscopy of HSiX (X=NC NCO and NCS)
Experimental and Theoretical Findings*
M. Dover

**FEL Workshop: Horizons in Vibrational Spectroscopy with
Free Electron Lasers, Ringberg, Germany (February 2007)**
L. C. Snoek

RSC Dalton Symposium, Nottingham (May 2006)
R. N. Perutz

**School of Chemistry, Stony Brook University, NY, USA
(May 2006)**
Photoprocesses in GFP
S. Meech

**Spectroscopy and Dynamics Group of the RSC, University
of Oxford (18th-20th December 2006)**
*Stimulated Raman photoacoustic spectroscopy: A powerful
tool for highly-sensitive Raman spectroscopy of gas-phase
molecules at high resolution*
C. Mohr and M. Hippler

**Symposium on Biomolecular Spectroscopy, University of
Birmingham (February 2007)**
L. C. Snoek

**The Federation of Analytical Chemistry and Spectroscopy
Societies Conference, FACSS 2006, Orlando, USA
(September 2006)**
SORS Approach to Turbid media
P. Matousek

**Tulip Summer School on Molecular Spectroscopy
(April 2006)**
J. Best, R. Edge, S. Navaratnam and J. A. Weinstein

**Young Researchers Meeting organized by the Astrophysical
Chemistry Group and the Astrosurf Network, UCL, London
(21st September 2006)**
*Preliminary laboratory studies of the photo-processing of
PAH / H₂O mixtures in the interstellar medium*
J. D. Thrower

**4th International Conference SPEC: Shedding Light on
Disease – Optical Diagnosis for the New Millennium,
Heidelberg, Germany (May 2006)**
*Subsurface Probing of Turbid Media using Temporal and
Spatial Methods*
P. Matousek

**10th Joint MMM/INTERMAG Conference, Baltimore,
Maryland (January 7th-11th 2007)**
*Ultrafast optically induced spin dynamics in patterned
single-crystal Fe dot arrays*
J. Wu

**15th International Conference on Ultrafast Phenomena,
Pacific Grove, California (31st July-4th August 2006)**
*Ultrafast Photoreactions in the Green Fluorescent Protein
Studied Through Time Resolved Vibrational Spectroscopy*
S. Meech

**25th Miller Conference on Radiation Chemistry, Buxton,
UK (April 2007)**
*Free radical generation and detection with near infrared
femtosecond pulses by multiphoton absorption*
A. W. Parker, R. H. Bisby, S. W. Botchway and
A. G. Crisostomo

J. Weinstein

**37th International Conference of Coordination Chemistry,
Cape Town, South Africa (August 2006)**
A. Müller, N. Reddig, R. N. Perutz, A. J. Wilkinson and
A.K. Duhme-Klair

THESIS

A. Pozo Ramajo
Fast Folding Dynamics of α -Helical Peptides
PhD Thesis - University of Liverpool (2006)

A. Muir
PhD Thesis - University of Southampton (2006)

C. Valdivia
*Light-Induced Ferroelectric Domain Engineering in Lithium
Niobate & Lithium Tantalate*
PhD Thesis - University of Southampton (2007)

H. Batey
Luminescent sensors for oxometalates
PhD Thesis - York University (2006)

S. Caulder
MPhil Thesis
Liverpool John Moores University (2006)

Vulcan

- K. U. Akli, M. H. Key, H. K. Chung, S. B. Hansen, R. R. Freeman, M. H. Chen, G. Gregori, S. Hatchett, D. Hey, N. Izumi, J. King, J. Kuba, P. Norreys, A. J. Mackinnon, C. D. Murphy, R. Snavely, R. B. Stephens, C. Stoeckel, W. Theobald and B. Zhang
Temperature sensitivity of Cu K-alpha imaging efficiency using a spherical Bragg reflecting crystal
Phys Plasmas **14** (2) 023102 (2007)
- A. Benuzzi-Mounaix, M. Koenig, A. Ravasio, T. Vinci, N. Ozaki, M. R. le Gloahec, B. Loupiau, G. Huser, E. Henry, S. Bouquet, C. Michaut, D. Hicks, A. MacKinnon, P. Patel, H. S. Park, S. Le Pape, T. Boehly, M. Borghesi, C. Cecchetti, M. Notley, R. Clark, S. Bandyopadhyay, S. Atzeni, A. Schiavi, Y. Aglitskiy, A. Faenov, T. Pikuz, D. Batani, R. Dezulian and K. Tanaka
Laser-driven shock waves for the study of extreme matter states
Plasma Phys and Contr Fusion **48** (12B) B347 (2006)
- M. Borghesi, J. Fuchs, S. V. Bulanov, A. J. Mackinnon, P. K. Patel and M. Roth
Fast ion generation by high-intensity laser irradiation of solid targets and applications
Fusion Sci and Tech **49** (3) 412 (2006)
- R. J. Clarke, K. W. D. Ledingham, P. McKenna, L. Robson, T. McCanny, D. Neely, O. Lundh, F. Lindau, C.-G. Wahlström, P. T. Simpson and M. Zepf
Detection of short lived radioisotopes as a fast diagnostic for intense laser-solid interactions
Appl Phys Letts **89** (14) 141117 (2006)
- R. J. Clarke, D. Neely, R. D. Edwards, P. N. M. Wright, K. W. D. Ledingham, R. Heathcote, P. McKenna, C. N. Danson, P. A. Brummitt, J. L. Collier, P. E. Hatton, S. J. Hawkes, C. Hernandez-Gomez, P. Holligan, M. H. R. Hutchinson, A. K. Kidd, W. J. Lester, D. R. Neville, P. A. Norreys, D. A. Pepler, T. B. Winstone, R. W. W. Wyatt and B. E. Wyborn
Radiological characterisation of photon radiation from ultra-high-intensity laser-plasma and nuclear interactions
J Radiological Protection **26** (3) 277 (2006)
- J. R. Davies, J. S. Green and P. A. Norreys
Electron beam hollowing in laser-solid interactions
Plasma Phys and Contr Fusion **48** (8) 1181 (2006)
- B. Dromey, M. Zepf, A. Gopal, K. Lancaster, M. S. Wei, K. Krushelnick, M. Tatarakis, N. Vakakis, S. Moustazis, R. Kodama, M. Tampo, C. Stoeckl, R. Clarke, H. Habara, D. Neely, S. Karsch and P. Norreys
High harmonic generation in the relativistic limit
Nature Physics **2** (7) 456 (2006)
- M. H. Edwards, D. Whittaker, P. Mistry, N. Booth, G. J. Pert, G. J. Tallents, B. Rus, T. Mocek, M. Koslova, C. McKenna, A. Delsérieys, C. L. S. Lewis, M. Notley and D. Neely
Opacity measurements of a hot iron plasma using an x-ray laser
Phys Rev Letts **97** (3) 035001 (2006)
- S. H. Glenzer, O. L. Landen, P. Neumayer, R. W. Lee, K. Widmann, S. W. Pollaine, R. J. Wallace, G. Gregori, A. Hoell, T. Bornath, R. Thiele, V. Schwarz, W. D. Kraeft and R. Redmer
Observations of plasmons in warm dense matter
Phys Rev Letts **98** (6) 065002 (2007)
- G. Gregori, S. H. Glenzer and O. L. Landen
Generalized X-ray scattering cross section from nonequilibrium plasmas
Phys Rev E **74** (2) 026402 (2006)
- G. Gregori, R. Tommasini, O. L. Landen, R. W. Lee and S. H. Glenzer
Limits on collective X-ray scattering imposed by coherence
Europhys Letts **74** (4) 637 (2006)
- H. Habara, K. L. Lancaster and P. A. Norreys
The development of a flexible large area neutron spectrometer for ultra-intense, laser-plasma interaction experiments
Nucl Instr Meth A **564** (1) 486 (2006)
- H. Habara, P. A. Norreys, R. Kodama, C. Stoeckl and V. Y. Glebov
Neutron measurements and diagnostic developments relevant to fast ignition
Fusion Sci and Tech **49** (3) 517 (2006)
- I. M. Hall, D. M. Chambers, C. Courtois, E. Forster, C. D. Gregory, J. Howe, O. Renner, I. Uschmann and N. C. Woolsey
Development of a test bed plasma and diagnostic methods for detailed K-shell spectroscopy
J de Physique IV **133** 1009 (2006)
- J. F. Hansen, M. J. Edwards, D. H. Froula, A. D. Edens, G. Gregori and T. Ditmire
Laboratory observation of secondary shock formation ahead of a strongly radiative blast wave
Astrophys Space Sci **307** (13) 219 (2007)
- M. H. Key, K. Akli, F. Beg, M. H. Chen, H. K. Chung, R. R. Freeman, M. E. Foord, J. S. Green, P. Gu, G. Gregori, H. Habara, S. P. Hatchett, D. Hey, J. M. Hill, J. A. King, R. Kodama, J. A. Koch, K. Lancaster, B. F. Lasinski, B. Langdon, A. J. MacKinnon, C. D. Murphy, P. A. Norreys, N. Patel, P. Patel, J. Pasley, R. A. Snavely, R. B. Stephens, C. Stoeckl, M. Tabak, W. Theobald, K. Tanaka, R. Town, S. C. Wilks, T. Yabuuchi and B. Zhang
Study of electron and proton isochoric heating for fast ignition
J de Physique IV **133** 371 (2006)
- R. Kodama, P. A. Norreys, Y. Sentoku and R. B. Campbell
Fast heating of high-density plasmas with a reentrant cone concept
Fusion Sci and Tech **49** (3) 316 (2006)
- M. Koenig, A. Ravasio, A. Benuzzi-Mounaix, B. Loupiau, N. Ozaki, M. Borghesi, C. Cecchetti, D. Batani, R. Dezulian, S. Lepape, P. Patel, H. S. Park, D. Hicks, A. Mckinnon, T. Boehly, A. Schiavi, E. Henry, M. Notley, R. Clark and S. Bandyopadhyay
Density measurements of shock compressed matter using short pulse laser diagnostics
Astrophys and Space Sci **307** (13) 257 (2007)

- K. L. Lancaster, J. S. Green, D. S. Hey, K. U. Akli, J. R. Davies, R. J. Clarke, R. R. Freeman, H. Habara, M. H. Key, R. Kodama, K. Krushelnick, C. D. Murphy, M. Nakatsutsumi, P. Simpson, R. Stephens, C. Stoeckl, T. Yabuuchi, M. Zepf and P. A. Norreys
Measurements of energy transport patterns in solid density laser plasma interactions at intensities of $5 \times 10^{20} \text{ W cm}^{-2}$
Phys Rev Letts **98** (12) 125002 (2007)
- K. K. M. Lee, L. R. Benedetti, R. Jeanloz, P. M. Celliers, J. H. Eggert, D. G. Hicks, S. J. Moon, A. Mackinnon, L. B. Da Silva, D. K. Bradley, W. Unites, G. W. Collins, E. Henry, M. Koenig, A. Benuzzi-Mounaix, J. Pasley and D. Neely
Laser-driven shock experiments on precompressed water: Implications for "icy" giant planets
J Chem Phys **125** (1) 014701 (2006)
- A. J. Mackinnon, P. Patel, M. Borghesi, R. C. Clarke, R. R. Freeman, H. Habara, S. P. Hatchett, D. Hey, D. G. Hicks, S. Kar, M. H. Key, J. A. King, K. Lancaster, D. Neely, A. Nikkro, P. A. Norreys, M. M. Notley, T. W. Phillips, L. Romagnani, R. A. Snavely, R. B. Stephens and R. P. J. Town
Proton radiography of a laser-driven implosion
Phys Rev Letts **97** (4) 045001 (2006)
- E. Martinolli, M. Koenig, S. D. Baton, J. J. Santos, T. Amiranoff, D. Batani, E. Perelli-Cippo, F. Scianitti, L. Gremillet, R. Melizzi, A. Decoster, C. Rousseaux, T. A. Hall, M. H. Key, R. Snavely, A. J. MacKinnon, R. R. Freeman, J. A. King, R. Stephens, D. Neely and R. J. Clarke
Fast-electron transport and heating of solid targets in high-intensity laser interactions measured by K alpha fluorescence
Phys Rev E **73** (4) 046402 Pt2 (2006)
- D. Neely, P. Foster, A. Robinson, F. Lindau, O. Lundh, A. Persson, C.-G. Wahlström and P. McKenna
Enhanced proton beams from ultrathin targets driven by high contrast laser pulses
Appl Phys Letts **89** (2) 021502 (2006)
- P. M. Nilson, S. P. D. Mangles, L. Willingale, M. Kaluza, A. G. R. Thomas, Z. Najmudin, R. G. Evans, A. E. Dangor, K. Krushelnick, M. Tatarakis, R. J. Clarke, K. L. Lancaster, C. Hernandez-Gomez, S. Karsch and J. Schreiber
Optical probing of high-intensity laser interactions with underdense plasmas using the Vulcan petawatt laser facility
J de Physique IV **133** 543 (2006)
- P. M. Nilson, L. Willingale, M. C. Kaluza, C. Kamperidis, S. Minardi, M. Wei, P. Fernandes, M. Notley, S. Bandyopadhyay, M. Sherlock, R. J. Kingham, M. Tatarakis, Z. Najmudin, W. Rozmus, R. G. Evans, M. G. Haines, A. E. Dangor and K. Krushelnick
Magnetic reconnection and plasma dynamics in two-beam laser-solid interactions
Phys Rev Letts **97** (25) 255001 (2006)
- M. M. Notley, R. L. Weber, B. Fell, J. Jeffries, R. R. Freeman, A. J. Mackinnon, R. Dickson, D. Hey, F. Khattak, E. G. Saiz and G. Gregori
Development of time resolved x-ray spectroscopy in high intensity laser-plasma interactions
Rev Sci Instr **77** (10) 10F322 (2006)
- H. S. Park, D. M. Chambers, H. K. Chung, R. J. Clarke, R. Eagleton, E. Giraldez, T. Goldsack, R. Heathcote, N. Izumi, M. H. Key, J. A. King, J. A. Koch, O. L. Landen, A. Nikroo, P. K. Patel, D. F. Price, B. A. Remington, H. F. Robey, R. A. Snavely, D. A. Steinman, R. B. Stephens, C. Stoeckl, M. Storm, M. Tabak, W. Theobald, R. P. J. Town, J. E. Wickersham and B. B. Zhang
High-energy K alpha radiography using high-intensity, short-pulse lasers
Phys Plasmas **13** (5) 056309 (2006)
- L. Robson, P. T. Simpson, R. J. Clarke, K. W. D. Ledingham, F. Lindau, O. Lundh, T. McCanny, P. Mora, D. Neely, C.-G. Wahlström, M. Zepf and P. McKenna
Scaling of proton acceleration driven by petawatt-laser-plasma interactions
Nature Physics **3** (1) 58 (2007)
- K. M. Spohr, R. Chapman, S. Hanvey, K. Ledingham, T. McCanny, P. McKenna, L. Robson and M. Shaw
The quest for laser induced isomer production
J Mod Opt **53** (1617) 2633 (2006)
- R. B. Stephens, R. P. J. Snavely, Y. Aglitskii, K. U. Akli, F. Amiranoff, C. Andersen, D. Batani, S. D. Baton, T. Cowan, R. R. Freeman, J. S. Green, H. Habara, T. Hall, S. P. Hatchett, D. S. Hey, J. M. Hill, J. L. Kaae, M. H. Key, J. A. King, R. Kodama, M. Koenig, K. Krushelnick, K. L. Lancaster, A. J. MacKinnon, E. Martinolli, C. D. Murphy, M. Nakatsutsumi, P. Norreys, E. Perelli-Cippo, M. R. Le Gloahec, B. Remington, C. Rousseaux, J. J. Santos, F. Scianitti, C. Stoeckl, M. Tabak, K. A. Tanaka, W. Theobald, R. Town, T. Yabuuchi and B. Zhang
High energy electron transport in solids
J de Physique IV **133** 355 (2006)
- C. Stoeckl, V. Y. Glebov, P. A. Jaanimagi, J. P. Knauer, D. D. Meyerhofer, T. C. Sangster, M. Storm, S. Sublett, W. Theobald, M. H. Key, A. J. MacKinnon, P. Patel, D. Neely and P. A. Norreys
Operation of target diagnostics in a petawatt laser environment (invited)
Rev Sci Instr **77** (10) 10F506 (2006)
- C. Strangio, A. Caruso, D. Neely, P. L. Andreoli, R. Anzalone, R. Clarke, G. Cristofari, E. Del Prete, G. Di Giorgio, C. Murphy, C. Ricci, R. Stevens and M. Tolley
Production of multi-MeV per nucleon ions in the controlled amount of matter mode (CAM) by using causally isolated targets
Las Part Beams **25** (1) 85 (2007)
- K. A. Tanaka, R. Kodama and P. A. Norreys
Integral experiments for fast ignition research
Fusion Sci and Tech **49** (3) 342 (2006)

- W. Theobald, K. Akli, R. Clarke, J. A. Delettrez, R. R. Freeman, S. Glenzer, J. Green, G. Gregori, R. Heathcote, N. Izumi, J. A. King, J. A. Koch, J. Kuba, K. Lancaster, A. J. MacKinnon, M. Key, C. Mileham, J. Myatt, D. Neely, P. A. Norreys, H. S. Park, J. Pasley, P. Patel, S. P. Regan, H. Sawada, R. Shepherd, R. Snively, R. B. Stephens, C. Stoeckl, M. Storm, B. Zhang and T. C. Sangster
Hot surface ionic line emission and cold K-inner shell emission from petawatt-laser-irradiated Cu foil targets
Phys Plasmas **13** (4) 043102 (2006)
- R. M. G. M. Trines and P. A. Norreys
Wave-breaking limits for relativistic electrostatic waves in a one-dimensional warm plasma
Phys Plasmas **13** (12) 123102 (2007)
- B. R. Walton, S. P. D. Mangles, Z. Najmudin, M. Tatarakis, M. S. Wei, A. Gopal, C. Marle, A. E. Dangor, K. Krushelnick, S. Fritzler, V. Malka, R. J. Clarke and C. Hernandez-Gomez
Measurements of forward scattered laser radiation from intense sub-ps laser interactions with underdense plasmas
Phys Plasmas **13** (11) 113103 (2006)
- M. S. Wei, J. R. Davies, E. L. Clark, F. N. Beg, A. Gopal, M. Tatarakis, L. Willingale, P. Nilson, A. E. Dangor, P. A. Norreys, M. Zepf and K. Krushelnick
Reduction of proton acceleration in high-intensity laser interaction with solid two-layer targets
Phys Plasmas **13** (12) 123101 (2007)
- L. Willingale, S. P. D. Mangles, P. M. Nilson, R. J. Clarke, A. E. Dangor, M. C. Kaluza, S. Karsch, K. L. Lancaster, W. B. Mori, Z. Najmudin, J. Schreiber, A. G. R. Thomas, M. S. Wei and K. Krushelnick
Collimated multi-MeV ion beams from high-intensity laser interactions with underdense plasma
Phys Rev Letts **96** (24) 245002 (2006)
- N. C. Woolsey, D. M. Chambers, C. Courtois, E. Forster, C. D. Gregory, I. M. Hall, J. Howe, O. Renner and I. Uschmann
Laser-induced effects on the aluminium He-beta transition
J Quant Spectr Rad Trans **99** (13) 680 (2006)

Laser Development

- O. V. Chekhlov, J. L. Collier, I. N. Ross, P. K. Bates, M. Notley, C. Hernandez-Gomez, W. Shaikh, C. N. Danson, D. Neely, P. Matousek and S. Hancock
35 J broadband femtosecond optical parametric chirped pulse amplification system
Opt Letts **31** (24) 3665 (2006)
- C. Hernandez-Gomez, P. A. Brummitt, D. J. Canny, R. J. Clarke, J. Collier, C. N. Danson, A. M. Dunne, B. Fell, A. J. Frackiewicz, S. Hancock, S. Hawkes, R. Heathcote, P. Holligan, M. H. R. Hutchinson, A. Kidd, W. J. Lester, I. O. Musgrave, D. Neely, D. R. Neville, P. A. Norreys, D. A. Pepler, C. J. Reason, W. Shaikh, T. B. Winstone and B. E. Wyborn
Vulcan petawatt-operation and development
J de Physique IV **133** 555 (2006)
- C. J. Hooker, J. L. Collier, O. Chekhlov, R. Clarke, E. Divall, K. Ertel, B. Fell, P. Foster, S. Hancock, A. Langley, D. Neely, J. Smith and B. E. Wyborn
The Astra Gemini project – A dual-beam petawatt Ti:sapphire laser system
J de Physique IV **133** 673 (2006)