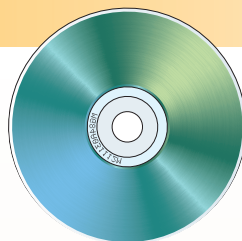




CD Rom Index



High Power Laser Science

Plasma Physics

- 1 Plasma jets and narrow bandwidth ion spectra from thin foils irradiated at high laser intensity
- 2 Influence of overlapping high-intensity laser beams on electron and ion generation and transport
- 3 Characterization of a line focus back-lighter
- 4 Creation of persistent, straight, 2mm long laser-driven channels in underdense plasmas for fast ignition applications
- 5 Observation of post-soliton expansion following laser propagation through an underdense plasma
- 6 Perspectives on radiative blast waves in laser-heated clustered gases

Femtosecond Pulse Physics

- 7 Radiation pressure effects on ion acceleration on the Gemini laser
- 8 Ion acceleration from foil targets in the ultraintense ultrahigh contrast regime.
- 9 Characterisation of debris emission from thick targets on Astra-Gemini
- 10 High rep rate Thomson parabola-MCP assembly for multi-MeV ion spectroscopy
- 11 Proton/ion energy scaling and laser conversion efficiency using 50fs, 10^{20} - 10^{21} W/cm² Astra-Gemini pulses
- 12 Investigation of contrast of Astra/Gemini

Theory & Computation

- 13 Electron transport during shock ignition
- 14 New perspectives on the electrodynamics of intense laser-plasmas
- 15 Cavitation and Shock Wave Formation in Dense Plasmas by Relativistic electron beams
- 16 Alpha-particle stopping power for dense hydrogen plasmas
- 17 An object-oriented 3D view-factor code for hohlraum modelling
- 18 Calculation of Siegert states in electric field: from atoms to molecules
- 19 Finite size effects in high-intensity QED
- 20 Multi-electron dynamics on the femtosecond time-scale

- 21 Hydrodynamics of the Yukawa one component Plasma

- 22 The accuracy of rear-surface measurements of the angular-divergence of a laser-generated fast-electron beam

- 23 High absorption of ultra-intense laser pulses in near critical plasmas

- 24 Modelling Spitzer transport in laser produced plasmas by direct Vlasov methods with a BGK collision operator

- 25 Effect of channel profile evolution on laser-driven electron acceleration in plasma channels

- 26 A Vlasov-Fokker-Planck code for shock ignition

- 27 Multi-component effects on the x-ray scattering signal from warm dense matter

Ultrafast and XUV Science

- 28 Quasi-classical model of non-destructive wavepacket manipulation by intense few-cycle nonresonant laser pulses

- 29 Monochromatic XUV-photon + strong-field NIR cross-correlation by atomic excitation and ionization

- 30 Multi-pulse scheme for controlling electron localisation upon molecular dissociation

- 31 Intensity-resolved ionization processes in few-cycle strong-field laser pulses

- 32 Ultrafast dynamics of electronic structure in complex materials

- 33 Ultrafast time-resolved photoelectron imaging of excited state molecular dynamics: S_2 - S_1 internal conversion in the DABCO molecule

Lasers for Science Facility Programme

Biology

- 34 Probing metal complex dissociation in cells by fluorescence microscopy

- 35 Biocompatible microstructured materials for tissue engineering

- 36 The plant secretoryome: protein-protein interactions in the higher plant secretory pathway

- 37 Supra-molecular rules in signalling networks: A single molecule comparative study in cells and tissues

- 38 The role of BER proteins in the repair of DNA damage induced following NIR multiphoton laser microbeam irradiation



Chemistry

- 39 Time resolved infrared analysis of AppABLUF using isotopic labeling at mutant studies
- 40 High-resolution stimulated Raman spectroscopy with photoacoustic detection (PARS) of formic acid dimer
- 41 Transient 2D-IR spectroscopy of [FeFe]hydrogenase enzyme model compounds
- 42 Ultrafast TRIR studies on tetraazidosilicon complexes
- 43 Photoinitiated CO-release molecules
- 44 Excited-state dynamics of adenine thymine dinucleotides: influence of stacking
- 45 Antigens laid bare: the intrinsic conformation of Lewis^x
- 46 Carbohydrate molecular recognition: probing CH- interactions
- 47 Polymer coil-globule transition dynamics on the nanosecond to second time scale

Physics

- 48 Using tip enhanced femtosecond lasers to create graphite nanostructures on diamond
- 49 Nonlinear spectroscopy of doped glass and crystal for applications in distributed fibre sensing
- 50 Distributed sensing by time-correlated two-photon excited fluorescence in rare earth doped optical fibres

Laser Science and Development

Artemis

- 51 Monochromatised XUV beamline for ultrafast time-resolved ARPES
- 52 Spin and Angle resolved photoemission with fs laser source: calibration of spin detector
- 53 Few-cycle carrier-envelope-phase controlled laser pulses for time resolved science at the Artemis facility

Astra

- 54 Vibration in Gemini and Engineering modifications (interim report)
- 55 Temporal and spatial overlap monitoring of the dual-beam layout in Astra-Gemini TA3
- 56 Upgrade of Astra Amplifier 3 and the Astra interlock system
- 57 Improved post-experiment data analysis at Astra Gemini
- 58 A new phase (and amplitude) for Astra Gemini: using a spatial light modulator
- 59 Ultrafast gated imaging of laser produced plasmas using the optical Kerr effect

Lasers for Science Facility

- 60 Two-photon fluorescence correlation spectroscopy: FCS
- 61 The ULTRA time-resolved IR, 2D-IR and T-2D-IR station
- 62 Developments within the EPSRC Laser Loan Pool
- 63 The OCTOPUS Imaging Cluster: A New Imaging Facility in the Research Complex at Harwell
- 64 New data analysis software for time-resolved spectroscopy experiments in the ULTRA laser facility
- 65 Active synchronisation of dual amplifier outputs for time-resolved spectroscopy
- 66 Optical trapping of laser targets under vacuum for ion-beam production in the LIBRA programme

Vulcan

- 67 Close-in contrast measurements of the new ps OPCPA front end
- 68 Vulcan rod amplifier upgrade
- 69 Vulcan computer control system upgrade
- 70 The Vulcan 10PW project – building design

Laser R&D

- 71 The DiPOLE project: towards high energy, high repetition rate diode pumped lasers
- 72 Timing and Synchronisation System Designs for the New Light Source
- 73 Experimental setup in the Vulcan HaPPIE Laboratory for Multi-beam Combination to achieve Diffraction limit pulses

Target Fabrication

- 74 Installation of the target fabrication quality management system
- 75 Electroplating of Gold and Palladium for High Power Laser Target Fabrication
- 76 Mass production of AFI cone geometries for fusion target studies

Instrumentation and Plasma Diagnostics

- 77 Debris analysis and mitigation for target motion systems
- 78 Calibration of image plate response to energetic carbon ions