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Ultrahigh Rep. Rate, Picosecond gated ICCD Cameras

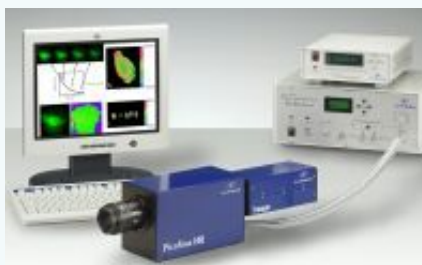
for time or frequency domain FLIM, fluorescence lifetime, optical imaging, microscopy and spectroscopy

Winner of 1999 Photonic Circle of Excellence Award

PicoStar HR **Sheet**

FLYER

Data



minimum gate width: **200ps**
 trigger frequency: up to **110 MHz**
 gain modulation: up to **1 GHz**
 Upgrade: **80ps** @ up to 10kHz
 Accessories: delay unit, delay generator,
 optical trigger unit, trigger resynchronizer
Software: Windows compatible 32 bit DaVis
 software for camera function and peripheral

device control, image processing and analysis.

PicoStar UF: **Sheet**

Data

- minimum gate width: **50ps**
- trigger frequency: up to 1kHz
- image intensifier: GEN II or GEN III
- photocathode size: 12mm
- spectral response: 200-900nm
- sensitivity: single photon range
- dynamic range: 12/14/16 bit

PicoStar: **Sheet**

Data

- minimum gate width: **80ps**
- trigger frequency: up to 10kHz
- image intensifier: GEN II or GEN III

- photocathode size: 18mm
- spectral response: 200-900nm
- sensitivity: single photon range
- dynamic range: 12/14/16 bit

Applications:

- Fluorescence Lifetime Imaging Microscopy (FLIM) in **time domain**
- Fluorescence Lifetime Imaging Microscopy (FLIM) in **frequency domain**
- dynamic FRET based on fluorescence lifetime kinetics
- **3D FLIM** in conjunction with multifocal multiphoton microscopy
- Imaging through scattering media
- Fluorescence Molecular Tomography (FMT)
- diffuse optical tomography, optical breast imaging, photon migration
- photonics diagnostics of random media
- Time-gated total internal reflection fluorescence microscopy
- single molecule and quantum dot imaging
- dynamics of photophysical and photochemical processes
- time-gated Raman spectroscopy & imaging: suppression of fluorescence
- fluorescence quenching of dye molecules near gold nanoparticles
- pump-probe imaging & spectroscopy
- plasma kinetics spectroscopy
- OLED characterization: electroluminescence kinetics and heterogeneity
- Realtime dynamics of carrier transport in GaAs quantum wires
- Picosecond imaging circuit analysis based on time-gated defect emission
- ultrafast magnetic domain switching using time-resolved Kerr microscopy
- gating and ranging; LIDAR
- underwater imaging through turbid media

PUBLICATIONS:

Fluorescence Lifetime

3D-resolved investigation of the pH gradient in artificial skin constructs by means of fluorescence lifetime imaging.

Niesner R, Peker B, Schlusche P, Gericke KH, Hoffmann C, Hahne D, Muller-Goymann C.

Pharm Res. 2005, 22(7):1079-87

Measurement of intracellular oxygen levels using fluorescence lifetime imaging microscopy (FLIM)

Dhruv Sud, Wei Zhong, David Beer, Mary-Ann Mycek

Proceedings of SPIE -- Volume 5859

Photon Migration and Diffuse-Light Imaging II, Kai Licha, Rinaldo Cubeddu, Editors, 5859 (Aug. 25, 2005)

Whole-body fluorescence lifetime imaging of a tumor-targeted near-infrared molecular probe in mice

Sharon Bloch, Frédéric Lesage, Laura McIntosh, Amir Gandjbakhche, Kexian Liang, and Samuel Achilefu

J. Biomed. Opt. 1005, 10(5), 054003

Toward the clinical application of time-domain fluorescence lifetime imaging

I. Munro, J. McGinty, N. Galletly, J. Requejo-Isidro, P. M. P. Lanigan, D. S. Elson, C. Dunsby, M. A. A. Neil, M. J. Lever, G. W. H. Stamp, and P. M. W. French

J. Biomed. Opt. Vol. 10, 051403 (Oct. 31, 2005)

Sensing cellular function and molecular activity in vivo using fluorescence lifetime imaging microscopy (FLIM)

Wei Zhong, Dhruv Sud, Mei Wu, Karl A. Merrick, Sofia D. Merajver, David G. Beer, Mary-Ann Mycek

Proceedings of SPIE -- Volume 5864 Novel Optical Instrumentation for Biomedical Applications II, Christian D. Depeursinge, Editor, 2005

Video rate fluorescence lifetime imaging and fluorescence lifetime endoscopy

J. McGinty, I. Munro, J. Requejo-Isidro, D. S. Elson, C. Dunsby, M. A. A. Neil, P. M. W. French, N. P. Galletly, and G. W. H. Stamp

Proceedings of SPIE -- Volume 5864

Novel Optical Instrumentation for Biomedical Applications II, Christian D. Depeursinge, Editor, 2005

Fluorescence lifetime imaging with picosecond resolution for biomedical applications

K. Dowling, M. J. Dayel, M. J. Lever, P. M. W. French, J. D. Hares and A. K. L. Dymoke-Bradshaw

OPTICS LETTERS 1998, 23(10) 810-812

Fluorescence lifetime three-dimensional microscopy with picosecond precision using a multifocal multiphoton microscope

M. Straub and S. W. Hell

APPLIED PHYSICS LETTERS, 1998, 73(13), 1769-1771

Imaging fluorescence lifetime heterogeneity applied to GFP-tagged MHC protein at an immunological synapse

Treanor B, Lanigan PM, Suhling K, Schreiber T, Munro I, Neil MA, Phillips D,

Davis DM, French
PM
217(Pt 1):36-43

J Microsc. 2005,

Fast excited state intramolecular proton transfer and subnanosecond dynamic Stokes shift of time-resolved fluorescence spectra of the 5-methoxysalicylic acid/diethyl ether complex.

M. Smoluch, H. Joshi, A. Gerssen, C. Gooijer, and G. van der Zwan
J. Phys. Chem. A, 2005, 109, 535-541.

Time-resolved fluorescence of the bacteriophage T4 capsid protein gp23
Aike Stortelder, Joost B. Buijs, Jaap Bulthuis, Saskia M. van der Vies, Cees Gooijer, Gert van der Zwan
Journal of Photochemistry and Photobiology B: Biology 2005, 78, 53-60

A wide-field time-domain fluorescence lifetime imaging microscope with optical sectioning
S. E.
D. Webb, Y. Gu, S. Leveque-Fort, J. Siegel, M. J. Cole, K. Dowling, R. Jones, P. M. W. French, M. A. A. Neil, R. Jusikaitis, L. O. D. Sucharov, T. Wilson, M. J. Lever
REVIEW OF SCIENTIFIC INSTRUMENTS 2002, 73(4), 2002

Protein localization in living cells and tissues using FRET and FLIM
Ye Chen, James D. Mills, Ammasi Periasamy
Differentiation 2003, 71, 528-541

High-speed wide-field time-gated endoscopic fluorescence-lifetime imaging
J. Requejo-Isidro, J. McGinty, I. Munro, D. S. Elson, N. P. Galletly, M. J. Lever, M. A. A. Neil, G. W. H. Stamp, P. M. W. French, P. A. Kellett, J. D. Hares, and A. K. L. Dymoke-Bradshaw
OPTICS LETTERS 2004, 29(19), 2249-51

pH-dependent regulation of lysosomal calcium in macrophages
Kenneth A. Christensen, Jesse T. Myers and Joel A. Swanson
Journal of Cell Science, 2002, 115, 599-607

Time-domain fluorescence lifetime imaging applied to biological tissue
Dan Elson, Jose Requejo-Isidro, Ian Munro, Fred Reavell, Jan Siegel, Klaus Suhling, Paul Tadrous, Richard Benninger, Peter Lanigan, James McGinty, Clifford Talbot, Bebhinn Treanor, Stephen Webb, Ann Sandison, Andrew Wallace, Dan Davis, John Lever, Mark Neil, David Phillips, Gordon Stamp and Paul French
Photochem. Photobiol. Sci., 2004, 3, 795 - 801

Noniterative Biexponential Fluorescence Lifetime Imaging in the Investigation of Cellular Metabolism by Means of NAD(P)H Autofluorescence
Raluca Niesner, Buelent Peker, Peter Schluesche, and Karl-Heinz Gericke
ChemPhysChem 2004, 5, 1141-1149

Picosecond time-gated microscopy of UV-damaged plant tissue
S. Rehman and P. B. Lukins
OPTICS EXPRESS, 2002, 10(8), 370-375

Fluorescence lifetime imaging (FLIM) of rhodamine 123 in living cells
Herbert Schneckenburger, Karl Stock, Marco Lyttek, Wolfgang S. L. Strauss and Reinhard Sailer
Photochem. Photobiol. Sci., 2004, 3, 127 - 131

Imaging fluorescence lifetime modulation of a ruthenium-based dye in living cells: the potential for oxygen sensing
Wei Zhong, Paul Urayama and Mary-Ann Mycek
J. Phys. D: Appl. Phys. 36 1689-1695

Autofluorescence Lifetime Imaging of Cultivated Cells Using a UV Picosecond Laser Diode
Herbert Schneckenburger, Michael Wagner, Petra Weber, Wolfgang S.L. Strauss and Reinhard Sailer
Journal of Fluorescence 2004, 14(5), 649 - 654

Fluorescence lifetimes of molecular dye ensembles near interfaces
Norbert Danz, Jörg Heber, and Andreas Bräuer, Richard Kowarschik
Phys. Rev. A 2002, 66, 063809

Time-resolved Microspectrofluorimetry and Fluorescence Lifetime Imaging of Hypericin in Human Retinal Pigment Epithelial Cells.
Taroni P, Valentini G, Comelli D, D'Andrea C, Cubeddu R, Hu DN, Roberts JE
Photochemistry and Photobiology 2004, 81(3), 524-528

Fluorescence lifetime imaging and spectroscopy as tools for nondestructive analysis of works of art
Comelli D, D'Andrea C, Valentini G, Cubeddu R, Colombo C, Toniolo L
Appl Opt. 2004, 43(10):2175-83

Time-resolved DNA-microarray reading by an intensified CCD for ultimate sensitivity
G.Valentini, C.D'Andrea, D.Comelli, A.Pifferi, P.Taroni, A. Torricelli, R.Cubeddu, C.Battaglia, C.Consolandi, G.Salani, L.Rossi-Bernardi and G.De Bellis

Opt. Lett. 2000, 25, 1648-1650

A UV-Visible-NIR fluorescence lifetime imaging microscope for laser-based biological sensing with picosecond resolution P.

Urayama, W. Zhong, J.A. Beamish, F.K. Minn, R.D. Sloboda, K.H. Dragnev, E. Dmitrovsky, M.-A. Mycek

Applied Physics B: Lasers and Optics 2003, 76(5), 483-496

Fluorescence-lifetime imaging with a multifocal two-photon microscope

S. Lévêque-Fort, M. P. Fontaine-Aupart, G. Roger, P. Georges

Optics Letters, 2004, 29(24), 2884-2886

Fluorescence lifetime imaging with a low-repetition-rate passively mode-locked diode-pumped Nd:YVO₄ oscillator

S. Lévêque-Fort, D. N. Papadopoulos, S. Forget, F. Balembois, P. Georges

Optics Letters, 2005, 30(2), 168-170

Laser-assisted fluorescence microscopy for measuring cell membrane dynamics

Herbert Schneckenburger, Michael Wagner, Martina Kretzschmar, Wolfgang S.

L. Strauss and Reinhard Sailer

Photochemical & Photobiological Sciences, 2004, 3(8), 817 - 822

FLIM/Microfluidics

Quantitative Spatial Mapping of Mixing in Microfluidic Systems

Steven W. Magennis, Emmelyn M. Graham, Anita C. Jones

Angewandte Chemie International Edition 2005, 44(40), 6512 - 6516

Quantitative 3D Mapping of Fluidic Temperatures within Microchannel Networks Using Fluorescence Lifetime Imaging.

Benninger RK, Koc Y, Hofmann O, Requejo-Isidro J, Neil MA, French PM, Demello AJ.

Anal Chem. 2006 Apr 1;78(7):2272-8

Time-resolved fluorescence imaging of solvent interactions in microfluidic devices Richard K. P. Benninger, Oliver Hofmann, James McGinty, Jose Requejo-Isidro, Ian Munro, Mark A. A. Neil, Andrew J. deMello and Paul M. W. French

OPTICS EXPRESS 2005, 13(16), 6275-6285

Properties of microfluidic turbulent mixing revealed by fluorescence lifetime imaging

Glen I. Redford, Zigurts K. Majumdar, Jason D. B. Sutin, and Robert M.

Clegg J. Chem. Phys. 123, 224504 (2005) (6 pages)

FLIM/FRET

IMAGING EPIDERMAL GROWTH FACTOR RECEPTOR PHOSPHORYLATION IN HUMAN COLORECTAL CANCER CELLS AND HUMAN TISSUES

Michael Keese, Richard J. Magdeburg, Torsten Herzog, Till Hasenberg, Martin Offerdinger, Rainer Pepperkok, Jörg W. Sturm, and Philippe I. H. Bastiaens J. Biol. Chem., 2005, 280(30) 27826-27831

Fluorescence Resonance Energy Transfer Between Quantum Dot Donors and Dye-Labeled Protein Acceptors

Aaron R. Clapp, Igor L. Medintz, J. Matthew Mauro, Brent R. Fisher, Mounji G. Bawendi, and Hedi Mattoussi J. AM. CHEM. SOC. 2004, 126, 301-310

Self-assembled nanoscale biosensors based on quantum dot FRET donors
IGOR L. MEDINTZ, AARON R. CLAPP, HEDI MATTOUSSI, ELLEN R. GOLDMAN, BRENT FISHER AND J. MATTHEW MAURO
Nature Materials 2003, 2, 630-638

Nanosecond fluorescence resonance energy transfer-fluorescence lifetime imaging microscopy to localize the protein interactions in a single living cell
M. ELANGO VAN, R. N. DAY and A. PERIASAMY
Journal of Microscopy, 2002, 205(1), 3-14.

Imaging activation of two Ras isoforms simultaneously in a single cell.
Peyker A, Rocks O, Bastiaens PI
Chembiochem 2005 6(1):78-85.

Time-Resolved Fluorescence Microscopy and Spectroscopy

Time-resolved optical imaging provides a molecular snapshot of altered metabolic function in living human cancer cell models

Dhruv Sud, Wei Zhong, David G. Beer, Mary-Ann Mycek OPTICS EXPRESS, 14(10), 4412, 2006

Time-resolved fluorescence imaging of solvent interactions in microfluidic devices
Richard K. P. Benninger, Oliver Hofmann, James McGinty, Jose Requejo-Isidro, Ian Munro, Mark A. A. Neil, Andrew J. deMello and Paul M. W. French
OPTICS EXPRESS 2005, 13(16), 6275-6285

Near-field imaging by a micro-particle: a model for conversion of evanescent

photons into propagating photons

Djenan Ganic, Xiaosong Gan, and Min Gu

OPTICS EXPRESS 2004, 12(22), 5325-5335

Uranyl sorption onto gibbsite studied by time-resolved laser-induced fluorescence spectroscopy (TRLFS).

Baumann N, Brendler V, Arnold T, Geipel G, Bernhard G.

J Colloid Interface Sci. 2005, 290(2):318-24.

Detection of U(VI) on the surface of altered depleted uranium by time-resolved laser-induced fluorescence spectroscopy (TRLFS).

Baumann N, Arnold T, Geipel G, Trueman ER, Black S, Read D.

Sci Total Environ. 2006 Aug 1;366(2-3):905-9

Uranyl sorption onto gibbsite studied by time-resolved laser-induced fluorescence spectroscopy

(TRLFS)

Brendler V, Arnold T, Geipel G, Bernhard G.

Interface Sci. 2005 Oct 15;290(2):318-24.

Baumann N,

J Colloid

Complex formation of neptunium(V) with 4-hydroxy-3-methoxybenzoic acid studied by time-resolved laser-induced fluorescence spectroscopy with ultra-short laser pulses.

Vulpius D, Geipel G, Baraniak L, Bernhard G

Spectrochim Acta A Mol Biomol Spectrosc. 2006 Mar 1;63(3):603-8

An EXAFS and TRLFS investigation on uranium(VI) sorption to pristine and leached albite surfaces

Walter M, Arnold T, Geipel G, Scheinost A, Bernhard G.

Colloid Interface Sci. 2005 Feb 15;282(2):293-305.

J

An ultrafast time-resolved fluorescence spectroscopy system for metal ion complexation studies with organic ligands

Geipel G, Acker M, Vulpius D, Bernhard G, Nitsche H, Fanghanel T.

Spectrochim Acta A Mol Biomol Spectrosc. 2004 Jan;60(1-2):417-24

Aqueous solutions of uranium(VI) as studied by time-resolved emission spectroscopy: a round-robin test.

Billard I, Ansoborlo E, Apperson K, Arpigny S, Azenha ME, Birch D, Bros P, Burrows HD, Choppin G, Couston L, Dubois V, Fanghanel T, Geipel G, Hubert S, Kim JI, Kimura T, Klenze R, Kronenberg A, Kumke M, Lagarde G, Lamarque G, Lis S, Madic C, Meinrath G, Moulin C, Nagaishi R, Parker D, Plancque G, Scherbaum F, Simoni E, Sinkov S, Viallesoubranne

C. Appl Spectrosc. 2003

Aug;57(8):1027-38

Complexation of uranium (VI) by three eco-types of Acidithiobacillusferrooxidans studied using time-resolved laser-induced fluorescence spectroscopy and infrared spectroscopy.

Merroun ML, Geipel G, Nicolai R, Heise KH, Selenska-Pobell S.

Biometals. 2003 Jun;16(2):331-9.

In vivo detection of macrophages in a rabbit atherosclerotic model by time-resolved laser-induced fluorescence spectroscopy.

Marcu L, Fang Q, Jo JA, Papaioannou T, Dorafshar A, Reil T, Qiao JH, Baker JD, Freischlag JA, Fishbein MC.

Atherosclerosis. 2005,181(2):295-303.

Determination of visible near-IR absorption coefficients of mammalian fat using time- and spatially resolved diffuse reflectance and transmission spectroscopy
R. L. P. van Veen, H. J. C. M. Sterenborg, A. Pifferi, A. Torricelli, E. Chikoidze, and R. Cubeddu

J. Biomed. Opt. 2005, 10(5), 054004

Fast Excited-State Intramolecular Proton Transfer and Sub-Nanosecond Dynamic Stokes Shift of Time-Resolved Fluorescence Spectra of the 5-Methoxysalicylic Acid/Diethylether Complex

Hem Joshi, Arjen Gerssen, Cees Gooijer and Gert van der Zwan

Mirosława Smoluch,

J.

Phys. Chem. A, 2005, 109, 535-541

Time-Resolved Fluorescence of the Bacteriophage T4 CAPSID Protein GP23
Aike Stortelder, Joost B. Buijs, Jaap Bulthuis, Saskia M. van der Vies, Cees Gooijer and Gert van der Zwan

J.

Photochem. Photobiol. B, 2004, 78, 53-60

Fast-Gated Intensified Charge-Coupled Device Camera to Record Time-Resolved Fluorescence Spectra of Tryptophan

AIKE STORTELDER, JOOST B. BUIJS, JAAP BULTHUIS, CEES GOOIJER, and GERT VAN DER ZWAN

APPLIED SPECTROSCOPY, 2004, 58(6), 705-710

Time-resolved fluorescence microscopy

Suhling K, French PM, Phillips D

Photochem Photobiol Sci. 2005, 4(1):13-22

Time Resolved Fluorescence Measurements of Fluorophores Close to Metal Nanoparticles

T. A. Klar, E. Dulkeith, J. Feldmann

Topics in Fluorescence Spectroscopy, Vol. 8 (ed. by C. D. Geddes, J. R. Lakowicz, Kluwer, 2004)

Time-resolved fluorescence imaging in biology and medicine

R. Cubeddu, D. Comelli, C. D'Andrea, P. Taroni and G.

Valentini

J. Phys. D: Appl. Phys. 2002, 35, R1-R16

Time-resolved optical imaging through turbid media using a fast data acquisition system based on a gated CCD camera

Cosimo D'Andrea, Daniela Comelli, Antonio Pifferi, Alessandro Torricelli, Gianluca Valentini and Rinaldo Cubeddu

Phys. D: Appl. Phys. 2003, 36, 1675-1681

Time-resolved spectroscopic fluorescence imaging, transient absorption and vibrational spectroscopy of intact and photo-inhibited photosynthetic tissue

Philip B. Lukins, Shakil Rehman, Gregory B. Stevens, Doaa

George

Luminescence 2005, 20(3), 143 - 151

In Vivo NADH Fluorescence Monitoring as an Assay for Cellular Damage in Photodynamic Therapy

Brian W. Pogue, John F. Brandsema, Jonathan D. Pitts, Mary-Ann Mycek, Roger

D. Sloboda, Carmen M. Wilmot, and Julia A. O'Hara

Photochemistry and Photobiology, 2001, 74(6), 817-824

Time-gated autofluorescence microscopy of motile green microalga in an optical trap

Konig K, Boehme S, Leclerc N, Ahuja R

Cell Mol Biol 1998, 44(5),763-70

Photophysical properties of [*N*] phenylenes

Dosche, H.-G. Löhmannsröben, A. Bieser, P. I. Dosa, S. Han, M. Iwamoto, A.

Schleifenbaum and K. P. C. Vollhardt

Physical Chemistry Chemical Physics, 2002, 4(11), 2156 - 2161

Nanoelectropulse-Induced Phosphatidylserine Translocation

P. Thomas Vernier, Yinghua Sun, Laura Marcu, Cheryl M. Craft and Martin A. Gundersen

Biophysical Journal 2004, 86:4040-4048

Combination of Laser-Induced Fluorescence and Diffuse-Reflectance Spectroscopy for the In Situ Analysis of Diesel-Fuel-Contaminated Soils
Hans-Gerd Loehmannsroeben, Lars Schober
Applied Optics, 1999, 38(9), 1404-1410

Single Molecule/Quantum dots/Nanocrystals

Room-Temperature Ordered Photon Emission from Multiexciton States in Single CdSe Core-Shell Nanocrystals
Brent Fisher, Jean Michel Caruge, Don Zehnder, and Mounji Bawendi
Phys. Rev. Lett. 2005, 94, 087403

Surface-Enhanced Emission from Single Semiconductor Nanocrystals
K. T. Shimizu, W. K. Woo, B. R. Fisher, H. J. Eisler, and M. G. Bawendi
Phys. Rev. Lett. 2002, 89, 117401

Coherent spin transport through dynamic quantum dots
Stotz JA, Hey R, Santos PV, Ploog KH
Nat Mater. 2005 4(8):585-8

Photophysical Aspects of Single-Molecule Detection by Two-Photon Excitation with Consideration of Sequential Pulsed Illumination
R. Niesner, W. Roth, and Karl-Heinz Gericke
ChemPhysChem 2004,5,678- 687

Fluorescence Quenching of Dye Molecules near Gold Nanoparticles: Radiative and Nonradiative Effects
E. Dulkeith, A. C. Morteani, T. Niedereichholz, T. A. Klar, J. Feldmann, S. A. Levi, F. C. J.M. van Veggel, D. N. Reinhoudt, M. Moller and D. I. Gittins
PHYSICAL REVIEW LETTERS, 2002, 89(10), 20302

Ultrafast intramolecular energy transfer in single conjugated polymer chains probed by polarized single chromophore
J. G. Müller, J. M. Lupton, J. Feldmann, U. Lemmer, U. Scherf
Applied Physics Letters, 2004, 84(7) 1183-1185

Controlled Fluorescence Bursts from Conjugated Polymers Induced by Triplet Quenching
F. Schindler 1, J. M. Lupton, J. Feldmann 1, U. Scherf 2
Advanced Materials 2004, 16(7), 653 – 657

Experimental and theoretical studies of the optical and electronic properties of a zinc complex encapsulated in the nanocavities

Lei Z. Zhang and Peng Cheng

[The Journal of Chemical Physics 2003, 119\(24\), 13061-13067](#)

Linewidth-Limited Energy Transfer in Single Conjugated Polymer Molecules

J. G. Müller, U. Lemmer, G. Raschke, M. Anni, U. Scherf, J. M. Lupton, and J. Feldmann

[Phys. Rev. Lett. 2003, 91, 267403](#)

Imaging Through Scattering/Turbid Media

Time-gated optical system for depth-resolved functional brain imaging

Juliette Selb, Danny K. Joseph, and David A. Boas

[J. Biomed. Opt. 11, 044008 \(2006\)](#)

Complete-angle projection diffuse optical tomography by use of early photons

Gordon M. Turner, Giannis Zacharakis, Antoine Soubret, Jorge Ripoll, Vasilis Ntziachristos

[OPTICS LETTERS 2005, 30\(4\), 409](#)

Improved sensitivity to cerebral hemodynamics during brain activation with a time-gated optical system: analytical model and experimental validation

Juliette Selb, Jonathan J. Stott, Maria Angela Franceschini, A. Gregory Sorensen, David A. Boas

[Journal of Biomedical Optics, 2005, 10\(1\), 11013](#)

Time-gated backscattered ballistic light imaging of objects in turbid water

Manuel E. Zevallos, S. K. Gayen, M. Alrubaiee, and R. R. Alfano

[APPLIED PHYSICS LETTERS 2005, 86, 011115](#)

Time-resolved Mueller matrix imaging polarimetry

Ihor Berezhnyy and Aristide Dogariu

[OPTICS EXPRESS, 2004, 12\(9\) 4635](#)

Fluorescence optical diffusion tomography using multiple-frequency data

Adam B. Milstein, Jonathan J. Stott, Seungseok Oh, David A. Boas, R. P. Millane, Charles A. Bouman and Kevin J. Webb

[J. Opt. Soc. Am. A 2004, 21\(6\), 1035-1049](#)

Localization and quantification of fluorescent inclusions embedded in a turbid medium.

D'Andrea C, Spinelli L, Comelli D, Valentini G, Cubeddu R.

[Phys Med Biol. 2005, 21;50\(10\):2313-27](#)

Do fluorescence decays remitted from tissues accurately reflect intrinsic fluorophore lifetimes?

Karthik Vishwanath, Mary-Ann Mycek

Optics Letters, 2004, 29(13), 1512-1514

Quantitative fluorescence lifetime spectroscopy in turbid media: comparison of theoretical, experimental and computational methods

Karthik Vishwanath, Brian Pogue and Mary-Ann Mycek

Phys. Med. Biol. 2002, 47, 3387-3405

Time-resolved optical imaging through turbid media using a fast data acquisition system based on a gated CCD camera

Cosimo D'Andrea, Daniela Comelli, Antonio Pifferi, Alessandro Torricelli, Gianluca Valentini and Rinaldo Cubeddu J.

Phys. D: Appl. Phys. 2003, 36, 1675-1681

FINGER-PRINT IMAGING

Fluorescence optimisation and lifetime studies of fingerprints treated with magnetic powders

L.K. Seah, U.S. Dinish, W.F. Phang, Z.X. Chao and V.M. Murukeshan

Forensic Science International 2005, 152(2-3), 249-257

Application of fluorescence lifetime imaging (FLIM) in latent finger mark detection

Seah LK, Wang P, Murukeshan VM, Chao ZX

Forensic Sci Int. 2005 Sep 20

Homodyne assisted multistep phase shifting in phase-resolved optical technique for latent fingerprint imaging U.

S. Dinish, Z. X. Chao, V. M. Murukeshan, L. K. Seah Opt.

Eng. 2004, 43(12), 2831-2832

Formulation and implementation of a phase-resolved fluorescence technique for latent-fingerprint imaging: theoretical and experimental analysis

U. S. Dinish, Z. X. Chao, L. K. Seah, A. Singh, and V. M. Murukeshan

APPLIED OPTICS 2005, 44(3) 297-304

Fluorescence Lifetime Imaging and Spectroscopy as Tools for Nondestructive Analysis of Works of Art

Daniela Comelli, Cosimo D'Andrea, Gianluca Valentini, Rinaldo Cubeddu, Chiara Colombo, Lucia Toniolo

Applied Optics, 2004, 43(10), 2175-2183

Semiconductor/OLED Characterization

Nanosecond electroluminescence spikes from multilayer blue 4,4'-bis(2,2-diphenyl vinyl)-1,1'-biphenyl (DPVBi) organic light-emitting devices
 V. Savvate'ev, J.H. Friedl, L. Zou, J. Shinar, K. Christensen, W. Oldham, L.J. Rothberg, Z. Chen-Esterlit, R. Kopelman
Materials Science and Engineering, 2001, B85, 224-227

Real-time dynamics of the acoustically induced carrier transport in GaAs quantum wires
 F. Alsina, P. V. Santos, H.-P. Schoenherr, R. Noetzel, and K. H. Ploog
PHYSICAL REVIEW B 2003, 67,

Two-photon diagnostics of stress-induced exciton traps and loading of 1s-yellow excitons in Cu₂O
 N. Naka and N. Nagasawa
Rev. B 65, 075209 (2002) (5 pages) N. Phys.

Optical tracking of high-density cooled excitons in potential traps in Cu₂O
 N. Naka and N. Nagasawa
physica status solidi (b) 2003, 238(3), 397 - 403

Effects of wandering photons on the excitonic optical signals in Cu₂O crystals
 Y. Nakamura, N. Naka, and N. Nagasawa
Phys. Rev. B 2001, 64, 075203 [6 pages]

Bosonic stimulation of cold 1s excitons into a harmonic potential minimum in Cu₂O
 N. Naka and N. Nagasawa
Communications 126 (2003) 523-525 Solid State

Ultrafast Magnetization/Time-Resolved Kerr Microscopy

Nanosecond time-scale switching of Permalloy thin film elements studied by wide-field time-resolved Kerr microscopy
 D. Chumakov, J. McCord, R. Schäfer, H. Vinzelberg, R. Kaltoven, I. Münch, L. Schultz
Phys. Rev. B 71, 014410 (2005)

A. Neudert, J. McCord, D. Chumakov, R. Schäfer, L. Schultz
 Small amplitude magnetization dynamics in Permalloy elements investigated by time-resolved wide-field Kerr microscopy
Phys. Rev. B 71, 134405 (2005)

Plasma Spectroscopy/Kinetics/Time-Resolved Spectroscopy

Interference between streamers in bunch of streamers

Nudnova, A.Yu.Starikovskii
Netherlands, 18-22 July, 2005

A.V. Krasnochub, E.I.Mintoussov, M.M.

XXVIIth ICPIG, Eindhoven, the

Phase resolved optical emission spectroscopy on an industrial confined dual frequency capacitively coupled radio frequency discharge

Swift, P. D.; Turner, M. M.; Gans, T.; Faulkner, R.

American Physical Society, 57th Gaseous Electronics Conference, 26-29 September, 2004, Shannon, Republic of Ireland, MEETING

Prospects of Phase Resolved Optical Emission Spectroscopy as a Powerful Diagnostic Tool for RF-Discharges

T.

Gans, V. Schulz-von der Gathen, H. F.

Döbele

Contributions to Plasma

Physics Volume 44, Issue 5-6 , Pages 523 - 528

Spectroscopic measurements of phase-resolved electron energy distribution functions in RF-excited discharges

T.

Gans, V. Schulz-von der Gathen and H. F. Döbele

Europhys. Lett., 2004, 66 (2), 232-238

Determination of quenching coefficients in a hydrogen RF discharge by time-resolved optical emission spectroscopy

T. Gans, Chun C Lin, V. Schulz-von der Gathen and H. F. Doebele

J. Phys. D: Appl. Phys. 34 (2001) L39-L42

Time dependence of rotational state populations of excited hydrogen molecules in an RF excited plasma reactor

T. Gans, V. Schulz-von der Gathen and H. F. Doebele

Plasma Sources Sci. Technol. 10 (2001) 17-23

Prospects of Phase Resolved Optical Emission Spectroscopy as a Powerful Diagnostic Tool for RF-Discharges

T.

Gans, V. Schulz-von der Gathen, H. F. Doebele

Contributions to Plasma Physics, 2004, 44(5-6), 523 - 528

Spectroscopic determination of phase and space resolved EEDFs in RF discharges T. Gans, V. Schulz-von der Gathen, H. F.

Doebele

Frontiers on Low Temperature Plasma

Diagnostics V, 2003, Bari, Italy

ENERGY TRANSFER IN HYPERSONIC PLASMA FLOW AND FLOW STRUCTURE
CONTROL BY LOW TEMPERATURE NONEQUILIBRIUM PLASMA

E.M. Anokhin, S.M.Starikovskaia, A.Yu.Starikovskii

42nd AIAA Aerospace Sciences Meeting, 2004, Reno, Nevada

PROPANE-AIR FLAME CONTROL BY NON-EQUILIBRIUM LOW-TEMPERATURE
PULSED NANOSECOND BARRIER DISCHARGE

E.M. Anokhin, S.M.Starikovskaia, A.Yu.Starikovskii

42nd AIAA Aerospace Sciences Meeting, 2004, Reno, Nevada

Development of a cathode-directed streamer discharge in air at different
pressures: Experiment and comparison with direct numerical simulation

S. Pancheshnyi, M. Nudnova, and A. Starikovskii

Phys. Rev. E 71, 016407 (2005)

Deflagration-to-Detonation Control by Non-Equilibrium Gas Discharges and Its
Applications for Pulsed Detonation Engine

V. Zhukov and A. Starikovskii

43rd AIAA Aerospace Sciences Meeting, Reno, Nevada, Jan. 10-13, 2005

Investigations on a magnetic neutral loop radio frequency discharge

D. O'Connell , D. Crintea , T. Gans , U. Czarnetzki

Abstract Link

Analysis of *L*-shell line spectra with 50-ps time resolution from Mo *X*-pinch
plasmas

B. Hansen , A. S. Shlyaptseva, S. A. Pikuz, T. A. Shelkovenko, D. B. Sinars, K. S.
M. Chandler, D. A. Hammer

Phys. Rev. 2004, E 70, 026402

Time-gated Raman Spectroscopy

Effective suppression of fluorescence light in Raman measurements using
ultrafast time gated charge coupled device camera

D. V. Martyshkin, R. C. Ahuja, A. Kudriavtsev and S. B. Mirov

REVIEW OF SCIENTIFIC INSTRUMENTS 2004, 75(3), 630-635

Raman detection of human macular carotenoid pigments

Gellermann, W. McClane, R. Balashov, N. Bernstein, P.S.

Technical Digest. Summaries of papers presented at the Conference on Lasers
and Electro-Optics, 1998. CLEO 98.

Use of picosecond Kerr-gated Raman spectroscopy to suppress signals from

both surface and deep layers in bladder and prostate
tissue Maria Consuelo Hart Prieto, Pavel Matousek,
Michael Towrie, Anthony William Parker, Mark Wright, Alistair William Ritchie,
Nicholas Stone Journal of Biomedical Optics, 2005, 10(4),
044006 (6 pages)

LIDAR

Contrast enhanced imaging in the sea: Application of the optical transfer
function for image reconstruction
Frank Ahrenberg, Stefan Harsdorf, Joerg Niehues, and Rainer Reuter

Short-pulse range-gated optical imaging in turbid water
E. A. McLean, H. R. Burris, Jr., M. P. Strand
Applied Optics, 1995, 34(21), 4343

