

Publication list

François COURVOISIER

Articles in Peer-reviewed international journals

1. Deviation from threshold model in ultrafast laser ablation of graphene at sub-micron scale
A. Gil-Villalba, C. Xie, R. Salut, L. Furfaro, R. Giust, M. Jacquot, P. A. Lacourt, J. M. Dudley,
and F. Courvoisier,
Appl. Phys. Lett., **in print** (2015)
2. Light trajectory in Bessel-Gauss vortex beams
C. Xie, R. Giust, V. Jukna, L. Furfaro, M. Jacquot, P.A. Lacourt, L. Froehly, J.M. Dudley, A. Couairon,
F. Courvoisier
J. Opt. Soc. Am. A, **32**, 1313-1316 (2015)
3. Tubular filamentation for laser material processing
Chen Xie, Vytautas Jukna, Carles Milián, Remo Giust, Ismail Ouadghiri, Tatiana Itina, John M.
Dudley, Arnaud Couairon and Francois Courvoisier
Scientific Reports **5**, 8914 (2015) DOI: 10.1038/srep08914
4. Nonlinear Bessel vortex beams for applications,
Arnold, Cord; Akturk, Selcuk; Mysyrowicz, André; Jukna, Vytautas; Couairon, Arnaud; Itina,
Tatiana; Stoian, Razvan; Chen, Xie; Courvoisier, Francois; Dudley, John; Bonanomi, Simone;
Jedrkiewicz, Ottavia; Di Trapani, Paolo
Journal of Physics B At. Mol. Opt. Phys. **48** 094006 (2015)
5. Filamentation with nonlinear Bessel vortices
V. Jukna, C. Milian, C. Xie, T. Itina, J. Dudley, F. Courvoisier and A. Couairon
Optics Express, **22**, 25410 (2014)
6. Spatiotemporal structure of femtosecond Bessel beams from spatial light modulators
L. Froehly, M. Jacquot, P.A. Lacourt, J.M. Dudley, F. Courvoisier
J. Opt. Soc. Am. A, **31**,790 (2014)
[Top Downloads JOSAA, March 2014]
7. Femtosecond laser fabrication of micro and nano-disks in single layer graphene using
vortex Bessel beams
B. Wetzel, C. Xie, P.-A. Lacourt, J. M. Dudley, and Francois Courvoisier
Applied Physics Letters, **103** , 241111 (2013)
8. Arbitrary nonparaxial accelerating periodic beams and spherical shaping of light,
A.Mathis, F. Courvoisier, R. Giust, L. Furfaro, M. Jacquot, L. Froehly, and J. M. Dudley,

Optics Letters, **38**, 2218-2220 (2013)

9. Direct machining of curved trenches in silicon with femtosecond accelerating beams
Mathis, A., Froehly, L., Furfaro, L., Jacquot, M., Dudley, J., & Courvoisier, F.
Journal Of The European Optical Society - Rapid Publications, **8**. (2013)
doi:10.2971/jeos.2013.13019
10. Applications of femtosecond Bessel beams to laser ablation
F. Courvoisier, J. Zhang, M. K. Bhuyan, M. Jacquot and J. M. Dudley
Applied Physics A, DOI 10.1007/s00339-012-7201-2, Online First (2012)
11. Micromachining along a curve: Femtosecond laser micromachining of curved profiles in diamond and silicon using accelerating beams
A. Mathis, F. Courvoisier, L. Froehly, L. Furfaro, M. Jacquot, P.A. Lacourt and J.M. Dudley
Applied Physics Letters **101**,071110 (2012)
12. Sending femtosecond pulses in circles: highly non-paraxial accelerating beams
F. Courvoisier, A. Mathis, L. Froehly, R. Giust, L. Furfaro, P. A. Lacourt, M. Jacquot, and J. M. Dudley
Optics Letters, **37**, 1736-1738 (2012)
13. Laser micro- and nanostructuring using femtosecond Bessel beams
M.K. Bhuyan, F. Courvoisier, H.S. Phing, O. Jedrkiewicz, S. Recchia, P. Di Trapani and J.M. Dudley
Eur. Phys. J. Special Topics **199**, 101-110 (2011)
14. Arbitrary accelerating micron-scale caustic beams in two and three dimensions
L. Froehly, F. Courvoisier, A. Mathis, M. Jacquot, L. Furfaro, R. Giust, P. A. Lacourt, and J. M. Dudley
Optics Express, **19**, 16455-16465 (2011)
15. A detailed study through the focal region of near-threshold single-shot femtosecond laser ablation nano-holes in borosilicate glass
B. Delobelle, R. Salut, F. Courvoisier and P. Delobelle
Optics Communications, **284**, 5746-5757 (2011)
16. Resolution of strongly competitive product channels with optimal dynamic discrimination: Application to flavins
J. Roslund, M. Roth, L. Guyon, V. Boutou, F. Courvoisier, J.-P. Wolf and H. Rabitz
The Journal of Chemical Physics, **134**, 034511 (2011)
[selected in *Vir. J. Bio. Phys. Res.* , **21**,3 (2011)]
17. High aspect ratio nanochannel machining using single shot femtosecond Bessel beams
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, R. Salut, L. Furfaro, and J. M. Dudley,
Applied Physics Letters, **97**, 081102 (2010)
[selected in the *Vir. J. Nano. Sci. & Tech.*, **22**, 10 (2010)]
[selected in the *Vir. J. Ultrafast Sci.*, **9**, 9 (2010)]
18. Morphology study of femtosecond laser nano-structured borosilicate glass using atomic force microscopy and scanning electron microscopy

- B. Delobelle, F. Courvoisier, P. Delobelle,
Optics and Lasers in Engineering, 48, 616-625 (2010)
19. High aspect ratio taper-free microchannel fabrication using femtosecond Bessel beams,
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, L. Furfaro, M. J. Withford, and J. M. Dudley,
Optics Express 18, 566-574 (2010)
[*Nature Photonics Research Highlights*, "Faster Fabrication" vol 4, p 128 March 2010
[Selected in the *Virtual Journal of Ultrafast Science* - April 2010, vol 9, 4]
 20. Surface nano-processing with nondiffracting femtosecond Bessel beams,
F. Courvoisier, P.-A. Lacourt, M. Jacquot, M. K. Bhuyan, L. Furfaro and J. M. Dudley
Optics Letters, 34, 3163-3165 (2009)
[Selected in the *Virtual Journal of Ultrafast Science* -- december 2009, vol 8, 12]
[Selected in the *Virtual Journal of nanotechnologies* --vol20,20 November 2009]
 21. Quantum control of tightly competitive product channels
M. Roth, L. Guyon, J. Roslund, V. Boutou, F. Courvoisier, J.P. Wolf and H. Rabitz
Physical Review Letters, 102, 253001 (2009)
[Selected for a Viewpoint in Physics, *Phys. Rev. Lett.*]
[Editors' Choice Science 10 July 2009: 127]
[Selected in the *Virtual Journal of Ultrafast Science* -- July 2009, vol 8, 7]
 22. Nano-FROG: Frequency Resolved Optical Gating by a nanometric object,
Jerome Extermann, Luigi Bonacina, Francois Courvoisier, Denis Kiselev, Yannick Mugnier, Ronan Le Dantec, Christine Galez, Jean-Pierre Wolf
Optics Express, 16, 14 (2008)
[Selected in the *Virtual Journal of Ultrafast Science*, 7, 9 (2008)
[Selected in the *Vir. J. Bio. Phys. Res.*, 16, 4 (2008)]
 23. Identification of biological particles using ultrafast spectroscopy,
F. Courvoisier, L. Bonacina, J. Extermann, J.-P. Wolf, M. Roth, H. Rabitz, L. Guyon, C. Bonnet, B. Thuillier, V. Boutou,
Faraday Discussions, 137 pp 37-49 (2008)
[Selected in the *RSC's Chemical Biology Research Articles virtual journal*]
 24. Control of lasing filament arrays in nonlinear liquid media,
L. Guyon, K. M. Hajek, F. Courvoisier, V. Boutou, R. Nuter, A. Vinçotte, S. Champeaux, L. Bergé,
J.-P. Wolf,
Applied Physics B, 90, 3-4: 383-390 (2008)
 25. Soliton spectral tunnelling in photonic crystal fibre with sub-wavelength core defect,
B. Kibler, P.-A Lacourt, F. Courvoisier, J.M. Dudley,
Electronics Letters, 43, 18, pp 967-968, (2007)
 26. Optimized one-step compression of femtosecond fibre laser soliton pulses around 1550 nm to below 30 fs in highly nonlinear fibre

- B. Kibler, R. Fischer, P.-A. Lacourt, F. Courvoisier, R. Ferriere, L. Larger, D. N. Neshev, J. M. Dudley,
Electronics Letters, 43, 17, pp 915 – 916 (2007)
27. Polar Fe(IO₃)₃ nanocrystals as local probes for nonlinear microscopy
L. Bonacina, Y. Mugnier, F. Courvoisier, R. Le Dantec, J. Extermann, Y. Lambert, V. Boutou, C. Galez and J.-P. Wolf,
Applied Physics B, 87, 3, pp 399-403 (2007)
28. Discriminating bacteria from other atmospheric particles using femtosecond molecular dynamics,
F. Courvoisier, V. Boutou, L. Guyon, M. Roth, H. Rabitz, J.P. Wolf,
Journal of Photochemistry and Photobiology A, 180, pp300-306 (2006)
29. Self-organized bundle of lasing filaments in dense media,
L. Guyon, F. Courvoisier, V. Boutou, R. Nutter, A. Vinçotte, S. Champeaux, L. Bergé, P. Glorieux,
J.P. Wolf,
Physical Review A, 73, 051802 (2006)
30. Femtosecond laser pulses distinguish bacteria from background urban aerosols,
F. Courvoisier, V. Boutou, V. Wood, J.P. Wolf, A. Bartelt, M. Roth, H. Rabitz,
Applied Physics Letters, 87, 6 (2005)
31. Deciphering output coupling mechanisms in spiral microcavities with femtosecond light bullets,
F. Courvoisier, V. Boutou, R.K. Chang, J. Zyss, J.P. Wolf
Optics Letters, 30, 7 (2005)
32. Femtosecond laser, filamentation, ablation cloud and thunderstorm
F. Courvoisier, V. Boutou, J. Kasparian, E. Salmon, G. Méjean, J. Yu and J.-P. Wolf
J. Phys. IV, 127, 205-210 (2005)
33. Ultraintense light filaments transmitted through clouds,
F. Courvoisier, V. Boutou, J. Kasparian, E. Salmon, G. Méjean, J. Yu, J.P. Wolf
Applied Physics Letters 83, 2 (2003)
34. Plasma formation dynamics within a microdroplet on femtosecond time scales,
F. Courvoisier, V. Boutou, C. Favre, S.C. Hill and J.-P. Wolf
Optics Letters, 28, 3 (2003)
35. Multi-mode resonances in square-shaped optical micro-cavities
A.W.Poon, F. Courvoisier and R.K. Chang,
Optics Letters, 26, 9 (2001)

Published conference proceedings

- [1] Nondiffracting and curved light beams for femtosecond laser micro-/nano-machining
F. Courvoisier, C. Xie, A. Mathis, B. Wetzel, L. Froehly, M. Jacquot, L. Furfaro, P.A. Lacourt, R. Giust and J.M. Dudley International Symposium on Optomechatronic Technologies, talk M3B-2, Jeju Island, Korea, October 28-30 (2013)
- [2] High-aspect ratio micro and nanochannel machining with nondiffracting beams
F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley
Photonics West, San Francisco, USA, January 22-27 (2011)
- [3] Nonlinear optics, filaments and nanomachining using femtosecond Bessel beams
F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley
Photonics 2010, Guwahati, India (11-15 Déc. 2010) ISBN 978-81-309-1719-1
- [4] Femtosecond non-diffracting Bessel beams for laser micro- and nano-processing
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, L. Furfaro, M.J. Withford and J.M. Dudley
Proceedings of the 7th International conference on MultiMaterial Micro-Manufacture, pp 73-75, ISBN 978-981-08-6555-9, Bourg-en Bresse, France, 17-19 November (2010)

Papers in non-peer reviewed journals

1. Accelerating beyond the horizon
I. Kaminer, E. Greenfield, R. Bekenstein, J. Nemirovsky, M. Segev, A. Mathis, L. Froehly, F. Courvoisier and J.M. Dudley
Optics and Photonics News, "Optics in 2012", December, p 26 (2012)
2. Montage d'holographie numérique dynamique pour la nano-métrie optique sans lentille,
M. Jacquot, O. Iken, B. Bobillier, S. Cremer, L. Froehly, F. Courvoisier, L. Furfaro, R. Giust, J. Dudley
J3eA 14,1006 (2015) <http://dx.doi.org/10.1051/j3ea/2015006>

Patents

[1] 3D imaging and tomography by nonlinear detection

F. Courvoisier, P.A. Lacourt, J.M. Dudley, FR 08/06925 (2008).

Publication in France : 11/06/2010 number 2939524

[2] Laser nanomachining device and method

F. Courvoisier, P.A. Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley, M. De Labachellerie

Publication WO 2013/153195, on 17/10/2013

EU patent application 2014, number 13723418.3

US patent application: LASER NANOMACHINING DEVICE AND METHOD, published 11/06/2015
number US2015/0158120-A1

[3] Laser micromachining device and method

F. Courvoisier, P.A. Lacourt, A. Couairon, French patent 3012059, published on 24/04/2015.

Publication PCT WO 2015/055779 on 23/04/2015.

Invited conferences

[1] (short course) Beam propagation and shaping. Spatial and temporal analogies. ([link](#))

F. Courvoisier, Workshop on spatial and temporal pulse shaping of femtosecond pulses, Paris, June 1st, France (2015)

[2] 3D imaging of femtosecond Bessel vortex filaments in glass,

F. Courvoisier, C. Xie, V. Jukna, I. Ouadghiri, R. Giust, L. Furfaro, M. Jacquot, L. Froehly, R. Stoian, T. Itina, J.M. Dudley, A. Couairon

International Conference on Advanced Laser Technologies (ALT-2014), Cassis, France, October 6th-10th(2014)

[3] Laser micro-nano structuring with femtosecond nondiffracting beams

F. Courvoisier, C. Xie, A. Mathis, B. Wetzels, L. Froehly, M. Jacquot, L. Furfaro, R. Giust, P.A. Lacourt, J. Dudley

LFIB, International workshop on Laser and Focused Ion Beam Technologies for Photonics, Nice, France, June 23rd-24th (2014)

[4] Controlled filamentation for ultrafast laser processing of glass,

F. Courvoisier, Schott Expert Panel-Laser Processing of Glass June 18th 2014, Mainz Germany (2014)

[5] Nondiffracting and curved light beams for femtosecond laser micro-/nano-machining

F. Courvoisier, C. Xie, A. Mathis, B. Wetzels, L. Froehly, M. Jacquot, L. Furfaro, P.A. Lacourt, R. Giust and J.M. Dudley

International Symposium on Optomechatronic Technologies, talk M3B-2, Jeju Island, Korea, October 28-30 (2013)

[6] Femtosecond laser material processing with nondiffracting light

F. Courvoisier, A. Mathis, J. Zhang, L. Froehly, L. Furfaro, M. Jacquot, R. Giust, P.-A. Lacourt, J. M. Dudley,

EUROMAT, European congress and Exhibition on Advanced Materials and Processes, Talk A1I-I/K-TH-PM2-1, Sevilla, Spain, September 8-13 (2013).

[7] Arbitrary nonparaxial accelerating beams and applications to femtosecond laser micromachining

F. Courvoisier, A. Mathis, L. Froehly, M. Jacquot, R. Giust, L. Furfaro, J.M. Dudley

International Conference on Applied Mathematics, Heraklion, Crete, Greece, September 16 – 20, 2013

[8] Filamentation of high-angle nondiffracting beams and applications to ultrafast laser processing

F. Courvoisier, A. Mathis, J. Zhang, L. Froehly, V. Jukna, L. Furfaro, M. Jacquot, R. Giust, C. Xie, P.A. Lacourt, A. Couairon and J.M. Dudley

International Conference on Coherent and Nonlinear Optics (ICONO/LAT 2013), Moscow, Russia, June 18-22nd (2013), talk IFM1, Symposium on Femtosecond Laser Pulse Filamentation IV (ICONO-09/4)

[9] Faisceaux non-diffractants et accélérants. Applications à la micro et nanostructuration par laser femtoseconde

F. Courvoisier, A. Mathis, C. Xie, B. Wetzels, J. Zhang, L. Froehly, M. Jacquot, L. Furfaro, R. Giust, P.A. Lacourt, J. Dudley

Journées Nationales des Cristaux pour l'Optique (JNCO), Cherbourg, France, 10-12 juin 2013

[10] Femtosecond laser micro and nano processing with nondiffracting Bessel and accelerating Airy beams,

F. Courvoisier, A. Mathis, J. Zhang, L. Froehly, V. Jukna, L. Furfaro, M. Jacquot, R. Giust, P.A. Lacourt, A. Couairon and J.M. Dudley,

CLEO/Europe 2013, Munich, Germany (12-16th May 2013), talk CM5.5 (2013)

[11] Faisceaux non-diffractants et ablation par laser femtoseconde, F. Courvoisier Journées du Réseau Optique et Photonique, Cargèse, 17-19 Octobre 2012

[12] Microstructuration et ablation par laser femtoseconde, F. Courvoisier, *Ecole d'Aquitaine Ondes et Matière*, « Applications et conséquences de l'Interaction laser-matière », Maubuisson, France, 7-12 Octobre 2012

[13] Femtosecond material processing with nondiffracting beams, A. Mathis, F. Courvoisier, L. Froehly, L. Furfaro, M.K. Bhuyan, M. Jacquot, P.A. Lacourt and J.M. Dudley, Laser Precision Manufacturing, Washington DC, USA, 11-15 Juin (2012)

[14] Control and applications of nondiffracting beams for laser ablation

F. Courvoisier, M.K. Bhuyan, L. Froehly, P.A. Lacourt, A. Mathis, M. Jacquot, L. Furfaro et J. M. Dudley COLA11, 11th Conference On Laser Ablation, Playa del Carmen, Mexico, 13-19th November (2011)

[15] Contrôle et application des faisceaux non-diffractants ultrabrefs à l'ablation à haut rapport de forme

F. Courvoisier, M.K. Bhuyan, L. Froehly, P.A. Lacourt, A. Mathis, M. Jacquot, L. Furfaro et J. M. Dudley
9eme journées des Phénomènes Ultrarapides, Rouen, 17-19 Octobre (2011)

[16] Femtosecond laser nanofabrication with nondiffracting beams

F. Courvoisier, L. Froehly, A. Mathis, P.A. Lacourt, M. Jacquot, M.K. Bhuyan, R. Salut, L. Furfaro and J.M. Dudley

Nanophotonics for sensing and nonlinear optics-next generation photonic materials, structures and devices workshop, Adelaide, Australia 24-26th August (2011)

[17] Laser Micro-Nano structuring method using Bessel beams

J. M. Dudley and F. Courvoisier

School for Training in Experiments with Lasers and Laser Applications (STELLA), Como, Italy, 20th June-8th July (2011)

[18] Short Course "Practical aspects of Laser Micro-Nano structuring method using Bessel beams" (4 days of practical training)

F. Courvoisier and M.K. Bhuyan, School for Training in Experiments with Lasers and Laser Applications (STELLA), Como, Italy, 20th June-8th July (2011)

[19] Femtosecond non-diffracting Bessel beams and controlled nanoscale ablation

M. K. Bhuyan, F. Courvoisier, M. Jacquot, P.-A. Lacourt, L. Froehly, R. Salut, L. Furfaro, and J. M. Dudley, conference D03.7

URSI GASS 2011, XXX General Assembly and Scientific Symposium of the International Union of Radio Science, Istanbul Turkey, August 16-20 (2011)

[20] High-aspect ratio micro and nanochannel machining with nondiffracting beams

F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley

Photonics West, San Francisco, USA, January 22-27 (2011)

[21] Nonlinear optics, filaments and nanomachining using femtosecond Bessel beams

F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley

Photonics 2010, Guwahati, India (11-15 Déc. 2010) ISBN 978-81-309-1719-1

[22] High aspect ratio femtosecond laser machining with nondiffracting beams,

F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley

International Workshop on Laser/Matter Interaction, Porquerolles (13-17 Sept. 2010)

[23] Nanoprocessing with femtosecond nondiffracting beams

F. Courvoisier, M. Bhuyan, PA Lacourt, M. Jacquot, L. Furfaro, J.M. Dudley

ICTON, Munich, Germany (25 juin-1Juillet 2010)

International conferences

- [1] Bessel filamentation in glass,
C. Xie, V. Jukna, I. Ouadghiri, C. Milián, R. Giust, L. Furfaro, P.A. Lacourt, M. Jacquot, L. Froehly, R. Stoian, T. Itina, J.M. Dudley, A. Couairon, F. Courvoisier, paper 9351-26, Photonics West 2015, San Francisco, USA February 7-12 (2015)
- [2] Pr³⁺:YLiF₄ epitaxial layers: efficient laser oscillation in the visible spectral region with planar and channel waveguides
W. Bolaños, F. Henrot, B. Guchardaz, F. Courvoisier, A. BRAUD, J. Doualan, R. Moncorge, and P. Camy, in Advanced Solid State Lasers, OSA Technical Digest (online) (Optical Society of America, 2014), paper AM2A.6.
- [3] Versatile femtosecond laser fabrication of graphene micro and nano-disks using vortex Bessel beams
B. Wetzel, C. Xie, P.A. Lacourt, J.M. Dudley and F. Courvoisier, paper 4.30, Photonics North 2014, , Montreal, Canada, May 28-30 (2014)
- [4] Optical rogue waves in laser speckle
Luc Froehly, Thomas Godin, Luca Furfaro, Pierre-Ambroise Lacourt, François Courvoisier, John Dudley, paper TOM10-2, EOSAM-European Optical Society Annual Meeting 2014, Berlin, 15-19 September 2014,
- [5] Spherical light and arbitrary nonparaxial accelerating beams
Amaury Mathis, Francois Courvoisier, Luc Froehly, Maxime Jacquot, and John M. Dudley
Frontiers in Optics, Orlando, Florida United States October 6-10, (2013) talk FTh3F
ISBN: 978-1-55752-987-9
- [6] Spherical light, Arbitrary nonparaxial accelerating beams and femtosecond laser micromachining of curved profiles
A.Mathis, L. Froehly, M. Jacquot, R. Giust, L. Furfaro, J.M. Dudley, F. Courvoisier
Progress In Electromagnetics Research Symposium (PIERS) 2013, Stockholm, Sweden, August 12-15 (2013) talk 1P9-SC1-9
- [7] Spatio-temporal dynamics of femtosecond Bessel beams for high-aspect ratio nanochannel drilling in dielectrics,
Jinggui Zhang, Francois Courvoisier, Arnaud Couairon, John M. Dudley,
Photonics West, San Francisco, USA, February 2-7 (2013), abstract number 8611-49
- [8] Direct curved micromachining with femtosecond accelerating beams
Amaury Mathis, Francois Courvoisier, Luc Froehly, Luca Furfaro,Maxime Jacquot, Pierre-Ambroise Lacourt, John M. Dudley,
Photonics West, San Francisco, USA, February 2-7 (2013), abstract number 8608-15
- [9] Arbitrary femtosecond highly non-paraxial accelerating beams,
Amaury Mathis, Francois Courvoisier, Luc Froehly, Maxime Jacquot, John M.Dudley,
Photonics West, San Francisco, USA, February 2-7 (2013), abstract number 8637-22

- [10] Ultrashort laser pulse filamentation with Airy and Bessel beams
A. Couairon, A. Lotti, P. Panagiotopoulos, D. Abdollahpour, D. Faccio, D. G. Papazoglou, S. Tzortzakisc, F. Courvoisier and J. M. Dudley
Seventeenth International School on Quantum Electronics: "Laser Physics and Applications", 24 - 28 September, Nessebar, Bulgaria, (2012)
- [11] Femtosecond Non-Paraxial Accelerating Beams Applied to Curved Micromachining
A. Mathis, F. Courvoisier, L. Froehly, L. Furfaro, M. Jacquot and J.M. Dudley, EOS Annual Meeting 2012, Aberdeen, Scotland, CD-ROM ISBN 978-3-9815022-4-4, (2012)
- [12] Accelerating femtosecond pulses along highly non-paraxial circular trajectories
A. Mathis, F. Courvoisier, L. Froehly, L. Furfaro, R. Giust, M. Jacquot, P. Lacourt, and J. M. Dudley in CLEO: QELS-Fundamental Science, OSA Technical Digest (Optical Society of America, 2012), San Jose, California United States, May 6-11, (2012) paper JTU3K.5
- [13] Single shot nanochannel processing with femtosecond Bessel beams
F. Courvoisier, M.K. Bhuyan, M. Jacquot, P.A. Lacourt, R. Salut, L. Furfaro and J.M. Dudley
Paper CM5.4, *Proceedings of CLEO*, Munich, Germany May 22-26 2011, *OSA Technical Digest Series*, (2011)
- [14] Tailored accelerating beam profiles through a caustic-based approach to wavefront design
L. Froehly, R. Giust, F. Courvoisier, A. Mathis, M. Jacquot and John M. Dudley
Paper CF4.2, *Proceedings of CLEO*, Munich, Germany May 22-26 2011, *OSA Technical Digest Series*, (2011)
- [15] Femtosecond non-diffracting Bessel beams for laser micro- and nano-processing
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, L. Furfaro, M.J. Withford and J.M. Dudley
Proceedings of the 7th International conference on MultiMaterial Micro-Manufacture, pp 73-75, ISBN 978-981-08-6555-9, Bourg-en Bresse, France, 17-19 November (2010)
- [16] Flexible generation of non-diffracting beams and applications to femtosecond laser ablation
M. K. Bhuyan, F. Courvoisier, M. Jacquot, P.-A. Lacourt, L. Furfaro, M.J. Withford and J. M. Dudley
European Optical Society Annual Meeting 2010, Paris, France, October 26-29 (2010), TOM6 - 3557.
- [17] Femtosecond Bessel filaments for high aspect-ratio and taper-free micromachining of dielectrics
F. Courvoisier, M. K. Bhuyan, M. Jacquot, P.-A. Lacourt, L. Furfaro, M.J. Withford and J. M. Dudley
Conference on Lasers and Electro-Optics (CLEO) 2010, San Jose CA, USA, May 16-21 (2010)
- [18] Ultrafast Bessel beams for high aspect ratio taper free micromachining of glass
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, L. Furfaro, M.J. Withford and J.M. Dudley
Paper 7728-68, *Photonics Europe*, Brussels, April 12-16 (2010) [poster]

- [19] Generation of ultrafast Bessel micro-beams and applications to laser surface nanoprocessing
F. Courvoisier, M. Jacquot, P.-A. Lacourt, M. K. Bhuyan, L. Furfaro, R. Ferrière and J. M. Dudley
Paper 7728-67, *Photonics Europe*, Brussels, April 12-16 (2010) [poster]
- [20] Ultrafast laser nanoprocessing with nondiffracting beams
F. Courvoisier, P.A. Lacourt, M. Jacquot, M. K. Bhuyan, L. Furfaro and John M. Dudley
ICTON-MW (International Conference on Transparent Optical Networks - Mediterranean Winter), Angers, December 14-19 (2009) ISBN 978-1-4244-5745-8 DOI 10.1109/ICTONMW.2009.5385573
- [21] Femtosecond micromachining of high aspect ratio structures in fused silica using Bessel beams
M. K. Bhuyan, F. Courvoisier, P.-A. Lacourt, M. Jacquot, L. Furfaro, and John M. Dudley
Paper CM3.5 THU, *Proceedings of CLEO*, Munich June 14-19 2009, *OSA Technical Digest Series*, 2009
- [22] High aspect ratio nanochannel fabrication using non-diffracting femtosecond Bessel beams
F. Courvoisier, P.-A. Lacourt, M. Jacquot, R. Salut, L. Furfaro, and John M. Dudley,
European Optical Society Annual Meeting, Paris, September 27th –October 2nd (2008)
Recueil des communications TOM 4 -1678 *postdeadline paper*
- [23] Morphological study of femtosecond laser nano-structured fused silica using atomic force microscopy
B. Delobelle, F. Courvoisier, P. Delobelle, P.-A. Lacourt, L. Furfaro, D. Perreux and J. M. Dudley,
European Optical Society Annual Meeting, Recueil des communications TOM4-1245, Paris, September 27th –October 2nd (2008) (poster)
- [24] Nano-FROG: Frequency Resolved Optical Gating by a nanometric object at the focal plane of a high NA objective
J. Extermann, L. Bonacina, F. Courvoisier, D. Kiselev, Y. Mugnier, R. Le Dantec, J.-P. Wolf
Conference on Ultrafast Phenomena, Poster THU11c.2, Stresa, Italy June 9-13th, (2008) (poster)
- [25] Technical Advances Towards Broadband UV-Visible Optimal Control
Rondi, L. Bonacina, J. Extermann, P. Béjot, V. Boutou, F. Courvoisier, J.-P. Wolf
Conference on Ultrafast Phenomena, Poster MON1e.2, Stresa, Italy June 9-13th, (2008)(poster)
- [26] Femtosecond micromachining of fused silica and applications to fiber optics,
F. Courvoisier, P.A Lacourt, B. Delobelle, M. Bhuyan, L. Furfaro, D. Perreux and J. Dudley,
Sixth Technical Meeting "European COST Workshop 299 FIDES", Funchal, Madeira, PORTUGAL, 3-5 septembre 2008
- [27] Femtosecond Lidar and Coherent Control

J.-P. Wolf, L. Bonacina, F. Courvoisier, M. Moret, P. Bejot, J. Extermann, A. Rondi, J. Kasparian, N. Lascoux, R. Salamé, E. Salmon, P. Maioli, V. Boutou, L. Guyon, B. Thuillier, S. Champeaux, L. Berge, C. Guet, N. Blanchot, O. Bonville, A. Boscheron, P. Canal, M. Castaldi, O. Hartmann, C. Lepage, L. Marmande, E. Mazataud, G. Mennerat, L. Patissou, D. Raffestin, M. Roth and H. Rabitz
Frontiers of Optics proc. LTuE2, San José, CA, USA September 16-20 (2007)

[28] Optimized one-step compression of femtosecond fibre laser pulses to 30 fs in dispersion-flattened highly nonlinear fibre

R. Fischer, D. Neshev, B. Kibler, P.A. Lacourt, F. Courvoisier, J. Dudley
Paper CJ1-1-WED, *Proceedings of CLEO, Munich June 17-22 2007, OSA Technical Digest Series, 2007*

[29] Control and compression of extreme spectrally-broadened pulses in highly nonlinear fiber

B. Kibler, R. Fischer, P.-A. Lacourt, F. Courvoisier, R. Ferrière, C. Billet, D. Neshev and J. M. Dudley, Symposium on Lasers and Applications in Science and Engineering, Proc. SPIE 6453 paper 64530W, 2007

[30] Polarization sensitive two-photon microscopy of nanometric Fe(IO₃)₃ crystals

J. Extermann, L. Bonacina, J.-P. Wolf, F. Courvoisier, Y. Mugnier, R. Le Dantec, C. Galez
Paper CL4-1-THU, *Proceedings of CLEO, Munich June 17-22 2007, OSA Technical Digest Series, 2007.*

[31] Femtosecond pump-probe LIDAR for discriminating bioaerosols from background urban particles

F. Courvoisier, V. Boutou, L. Guyon, J. Kasparian, G. Méjean, R. Ackermann, M. Roth, H. Rabitz and J.P. Wolf, *Proceedings of the 23rd International Laser Radar Conference, Nara, Japan, July 24-28 2006*

[32] Interfering Lasing Filaments in Dense Absorbing Media,

L. Guyon, F. Courvoisier, V. Boutou, R. Nuter, A. Vinçotte, R. Champeaux, L. Bergé, P. Glorieux, J.P. Wolf, *Proceedings of the 15th Conference on Ultrafast Phenomena, Pacific Grove, Ca, USA, July 31-Aug. 4 2006*

[33] Femtosecond pump-repump depletion to sort biological particles from background urban particles

V. Boutou, L. Guyon, C. Bonnet, M. Roth, H. Rabitz, F. Courvoisier, and J.-P. Wolf, Femtosecond Phenomena and Nonlinear Optics III, Proc. SPIE 6400, 64000N, 2006

[34] Ultrashort pump-probe depletion spectroscopy to discriminate Organic and Biological particles,

F. Courvoisier, V. Boutou, L. Guyon, V. Wood, J. P. Wolf, A. Bartelt, M. Roth and H. Rabitz
CLEO/IQEC, OSA Technical Digest, 2005

[35] Probing the atmosphere using a femtosecond terawatt Lidar,

J.-P. Wolf, J. Kasparian, G. Méjean, E. Salmon, J. Yu, F. Courvoisier, M. Rodriguez, L. Woeste, R. Bourayou, R. Sauerbrey, *CLEO/IQEC, OSA Technical Digest, 2004*

[36] Whispering gallery modes disclosed by a fs-wavepacket in a spiral-shaped microcavity,

F. Courvoisier, V. Boutou, R. Hierle, R.K. Chang, J. Zyss and J. P. Wolf, *CLEO/IQEC, OSA Technical Digest*, 2004

[37] Nonlinear aerosol Lidar for remote detection and identification of bioaerosols in clouds
G. Méjean, F. Courvoisier, J. Kasparian, V. Boutou, E. Salmon, J. Yu and J.-P. Wolf,
European Space Agency, (Special Publication) ESA SP 1, (561): 25-28, 2004

[38] Dynamics and emission of femtosecond laser-induced plasma inclusion in water droplets,
V. Boutou, F. Courvoisier, C. Favre, J. Yu, J-P. Wolf, S.C. Hill, R.K. Chang, *Quantum-Electronics-and-Laser-Science-QELS, Postconference Digest*, CH37420-TBR_ 2003

[39] Evanescent and side-coupled high-Q resonances of noncircular 2D micropillars
A.W.Poon, F. Courvoisier and R.K. Chang, *Proceedings of the SPIE*; 4270: 131-8, 2001

Book chapters

[1] Participation to the 2005 edition of the Photonics Dictionary, Laurin Publishing.

[2] Annales des Concours PC-PC*, H&K, 1999 (in french, undergraduate level)

Conferences in France

- [1] Micro et nano-structuration des matériaux transparents par faisceaux de Bessel femtoseconde
F. Courvoisier, M. K. Bhuyan, P.-A. Lacourt, M.Jacquot, M. J. Withford et John M. Dudley
Journées Nationales des Cristaux pour l'Optique (JNCO), Recueil des communications, P7
Lyon, December 2-4 (2009) [poster]
- [2] Couches minces monocristallines de CaF₂ dopées Ytterbium élaborées par épitaxie en phase liquide
A. Peña Revellez, A. Benayad, P. Camy, J.-L. Doualan, F. Courvoisier, R. Moncorgé
Journées Nationales des Cristaux pour l'Optique (JNCO), Recueil des communications, M2
Lyon, December 2-4 (2009)
- [3] Réseaux de Bragg sur niobate de lithium réalisés par nanostructuration laser femtoseconde en faisceaux de Bessel non-diffractants
F.Courvoisier, N. Courjal, J. Dahdah, P.-A. Lacourt, M. Jacquot and J. M. Dudley
Journées Nationales de l'Optique Guidée, Recueil des communications A3.3 pp 195-198, Lille, Juillet 2009 (poster)
- [4] Correction de phase de modulateurs intégrés sur niobate de lithium par laser femtoseconde
Y. Pawela, P.A. Lacourt, J. Hauden, F.Courvoisier, N. Grossard, J. Dudley
Journées Nationales de l'Optique Guidée, Recueil des communications A9.6 pp 324-326, Lille, Juillet 2009 (poster)

- [5] Contrôle et compression d'impulsions à spectre fortement élargi dans une fibre hautement non-linéaire
B. Kibler, P.-A. Lacourt, F. Courvoisier, R. Ferrière, C. Billet, R. Fischer, D. Neshev and J. M. Dudley,
Journées Nationales de l'Optique Guidée, pp 175-177, Grenoble, July 2-5, 2007
- [6] Génération de nanoparticules de niobate de lithium par ablation laser femtoseconde
F. Courvoisier, P.-A. Lacourt, L. Furfaro et J. Dudley
Horizons de l'Optique, Grenoble, July 2-5, 2007, (Poster)
- [7] Pump-probe spectroscopy for the detection of bioaerosols
L. Guyon, F. Courvoisier, V. Wood, V. Boutou, A. Bartelt, M. Roth, H. Rabitz and J.P. Wolf
J. Phys. IV, 135, 185-186 (2006)

