

List of publications: THz generation and Detection using our THz generators: DAST, DSTMS & OH1

DSTMS

Coherent two dimensional-terahertz-terahertz-Raman spectroscopy
I-A. Finneran, R. Welsch, M.A. Allodi, T.F. Miller III, and Geoffrey Blake
PNAS Vol. 113, 6857-6861, doi:10.1073/PNAS.1605631113; 2016

High-performing nonlinear visualization of terahertz radiation on a silicon charge-coupled device,
M. Shalaby, C. Vicario, and C.P. Hauri
Nat. Commun. **6**, 8439 (2015)

Ultra-broadband terahertz pulses generated
in the organic crystal DSTMS
C. Somma, G. Folpini, J. Gupta, K. Reimann, M. Woerner, and T. Elsaesser
Optics Letter **40**, 3404, 2015

M. Shalaby, C.P. Hauri
Demonstration of a low-frequency three-dimensional terahertz bullet with extreme brightness
Nature Comm. **2015**, *6*, No. 5976, doi:10.1038/ncomms 6976

C. Vicario, M. Jazbinsek, A.V. Ovchinnikov, O.V. Chefonov, S.I. Ashitkov, M.B. Agranat, and C.P. Hauri
High efficiency THz generation in DSTMS, DAST and OH1 pumped by Cr:forsterite laser
Opt. Express, **2015**, *23*, 4573-4580.

M. Shalaby, C.P. Hauri
Terahertz brightness at the extreme: demonstration of 5 GV/m low frequency λ^3 terahertz bullet
<http://arxiv.org/pdf/1407.1656v1.pdf> (2014)

C. Vicario B. Monozslai, C. P. Hauri
GV/m Single-Cycle Terahertz Fields from a Laser-Driven Large-Size Partitioned Organic Crystal
Phys. Rev. Lett., **2014**, *112*, 213901

C. Vicario, B. Monozslai, B. ruiz, M. Jazbinsek, C. Medrano and C.P. Hauri
Terahertz emission in organic crystals pumped by conventional laser wavelength
SPIE OPTO 89850, 89850C (2014)

B. Monozslai, C. Vicario, M. Jazbinsek, C.P. Hauri.
High-energy terahertz pulses from organic crystals: DAST and DSTMS pumped at Ti:sapphire wavelength
Opt. Lett., **38**, No. 23, 5106, 2013

Ruchert, C.; Vicario, C; Hauri, C.P.
Spatiotemporal Focusing Dynamics of Intense Supercontinuum THz Pulses
Phys. Rev. Lett., **2013**, *110*, 123902

Vicario, C; Ruchert, C.; Hauri, C.P.
High field broadband THz generation in organic materials
J. Mod. Opt., 2013, DOI: 10.1080/09500340.2013.800242

Stillhart, M.; Schneider, A. & Gunter, P.
Optical properties of 4-N,N-dimethylamino-4'-N'-methyl-stilbazolium 2,4,6-trimethylbenzenesulfonate crystals at terahertz frequencies
J. Opt. Soc. Am. B, **2008**, *25*, 1914-1919

Mutter, L.; Brunner, F. D. J.; Yang, Z.; Jazbinsek, M. & Gunter, P.
Linear and nonlinear optical properties of the organic crystal DSTMS
J. Opt. Soc. Am. B, **2007**, *24*, 2556-2561

Yang, Z.; Mutter, L.; Stillhart, M.; Ruiz, B.; Aravazhi, S.; Jazbinsek, M.; Schneider, A.; Gramlich, V. & Gunter, P.

Large-size bulk and thin-film stilbazolium-salt single crystals for nonlinear optics and THz generation
Adv. Funct. Mater., **2007**, *17*, 2018-2023

DAST

C. Vicario, B. Monzslai, G. Arisholm and C.P. Hauri

Generation of 1.5-octave intense infrared pulses by nonlinear interactions in DAST crystal
J. Opt. **17** 094005 (2015).

C. Vicario, M. Jazbinsek, A.V. Ovchinnikov, O.V. Chefonov, S.I. Ashitkov, M.B. Agranat, and C.P. Hauri

High efficiency THz generation in DSTMS, DAST and OH1 pumped by Cr:forsterite laser
Opt. Express, **2015**, *23*, 4573-4580.

Hauri, C. P.; Ruchert, C.; Vicario, C. & Ardana, F.

Strong-field single-cycle THz pulses generated in an organic crystal
Appl. Phys. Lett., **2011**, *99*, 161116

Hauri, C. P.; Ruchert, C.; Vicario, C. & Ardana, F.

Laser driven generation of intense single-cycle THz field
Proc. SPIE, **2012**, *8261*, 82610Z

Martin, M.; Mangeney, J.; Crozat, P. & Mounaix, P.

Comparison of GaAs and DAST electro-optic crystals for THz time domain spectroscopy using 1.55 μm fiber laser pulses

Terahertz Technology And Applications Iv, **2011**, 7938, 793807

Cunningham, P. D. & Hayden, L. M.

Optical properties of DAST in the THz range
Opt. Express, **2010**, *18*, 23620-23625

Martin, M.; Mangeney, J.; Crozat, P. & Mounaix, P.

Optical phase detection in a 4-N,N-dimethylamino-4'-N'-methyl-stilbazolium tosylate crystal for terahertz time domain spectroscopy system at 1.55 μm wavelength

Appl. Phys. Lett., **2010**, *97*, 111112

Liu, J. J.; Schmutz, H. & Merkt, F.

Generation of widely tunable Fourier-transform-limited terahertz pulses using narrowband near-infrared laser radiation

J. Mol. Spectrosc., **2009**, *256*, 111-118

Liu, J. J. & Merkt, F.

Generation of tunable Fourier-transform-limited terahertz pulses in 4-N, N-dimethylamino-4'-N'-methyl stilbazolium tosylate crystals

Appl. Phys. Lett., **2008**, *93*, 131105

Jazbinsek, M.; Mutter, L. & Gunter, P.

Photonic Applications With the Organic Nonlinear Optical Crystal DAST
IEEE J. Sel. Top. Quantum Electron., **2008**, *14*, 1298-1311

McLaughlin, C. V.; Hayden, L. M.; Polishak, B.; Huang, S.; Luo, J. D.; Kim, T. D. & Jen, A. K. Y.

Wideband 15 THz response using organic electro-optic polymer emitter-sensor pairs at telecommunication wavelengths

Appl. Phys. Lett., **2008**, *92*, 151107

Schneider, A.; Brunner, F. D. J. & Gunter, P.

Determination of the refractive index over a wide wavelength range through time-delay measurements

of femtosecond pulses

Opt. Commun., **2007**, 275, 354-358

Zheng, X. M.; McLaughlin, C. V.; Cunningham, P. & Hayden, L. M.

Organic broadband terahertz sources and sensors

J. Nanoelectron. Optoelectron., **2007**, 2, 58-76

Schneider, A.; Stillhart, M.; Yang, Z.; Brunner, F. & Gunter, P.

Improved emission and coherent detection of few-cycle terahertz transients using laser pulses at 1.5 μm - art. no. 658211

Nonlinear Optics and Applications II, **2007**, 6582, 658211

Schneider, A.; Neis, M.; Stillhart, M.; Ruiz, B.; Khan, R. U. A. & Gunter, P.

Generation of terahertz pulses through optical rectification in organic DAST crystals: theory and experiment

J. Opt. Soc. Am. B, **2006**, 23, 1822-1835

Schneider, A.; Stillhart, M. & Gunter, P.

High efficiency generation and detection of terahertz pulses using laser pulses at telecommunication wavelengths

Opt. Express, **2006**, 14, 5376-5384

Schneider, A. & Gunter, P.

Spectrum of terahertz pulses from organic DAST crystals

Ferroelectrics, **2005**, 318, 83-88

Zheng, X.; Wu, S.; Sobolewski, R.; Adam, R.; Mikulics, M.; Kordos, P. & Siegel, M.

Electro-optic sampling system with a single-crystal 4-N,N-dimethylamino-4'-N'-methyl-4-stilbazolium tosylate sensor

Appl. Phys. Lett., **2003**, 82, 2383-2385

Laveant, P.; Medrano, C.; Ruiz, B. & Gunter, P.

Rainbow photonics - Growth of nonlinear optical DAST crystals

Chimia, **2003**, 57, 349-351

OH1

Two-frequency pulsed YLiF4 cut of the principal axes and THz generation

Alain Brenier

Opt. Letters, **2015**, 40, 4496-4499.

M. Shalaby, C.P. Hauri

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Nature Comm. **2015**, 6, No. 5976, doi:10.1038/ncomms 6976.

C. Vicario, M. Jazbinsek, A.V. Ovchinnikov, O.V. Chefonov, S.I. Ashitkov, M.B. Agranat, and C.P. Hauri

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Terahertz brightness at the extreme: demonstration of 5 GV/m low frequency λ^3 terahertz bullet

<http://arxiv.org/pdf/1407.1656v1.pdf> (2014)

A. Majkic, M. Zgonik, A. Petelin, M. Jazbinsek, B. Ruiz, C. Medrano, and P. Günter.

Terahertz source at 9.4 THz based on a dual-wavelength infrared laser and quasi-phase matching in organic crystals OH1

Appl. Phys. Lett., **2014**, 105, 141115

A.G. Stepanov, C. Ruchert, J. Levallois, C. Erny and C.P. Hauri

Generation of broadband THz pulses in organic crystal OH1 at room temperature and 10 K

Opt. Mat. Express **4**, 870 (2014)

Ruchert, C.; Vicario, C.; Hauri, C. P.

Scaling submillimeter single-cycle transients toward megavolts per centimeter field strength via optical rectification in the organic crystal OH1

Opt. Letters, **2012**, 37, 899-901

Hunziker, C.; Kwon, S. J.; Figi, H.; Juvalta, F.; Kwon, O. P.; Jazbinsek, M. & Gunter, P.

Configurationaly locked, phenolic polyene organic crystal 2-3-(4-hydroxystyryl)-5,5-dimethylcyclohex-2-enylidenemalononitrile: linear and nonlinear optical properties

J. Opt. Soc. Am. B, **2008**, 25, 1678-1683

Brunner, F. D. J.; Kwon, O. P.; Kwon, S. J.; Jazbinsek, M.; Schneider, A. & Gunter, P.

A hydrogen-bonded organic nonlinear optical crystal for high-efficiency terahertz generation and detection

Opt. Express, **2008**, 16, 16496-16508

Kwon, O. P.; Kwon, S. J.; Jazbinsek, M.; Brunner, F. D. J.; Seo, J. I.; Hunziker, C.; Schneider, A.; Yun, H.; Lee, Y. S. & Gunter, P.

Organic Phenolic Configurationaly Locked Polyene Single Crystals for Electro-optic and Terahertz Wave Applications

Adv. Funct. Mater., **2008**, 18, 3242-3250