

### **High-Power 1.5 $\mu\text{m}$ Tapered Distributed Bragg Reflector Laser Diodes for Eye-Safe LIDAR**

Aho, A. T., Viheriälä, J., Koskinen, M., Uusitalo, T., Reuna, J. & Guina, M., 1 Oct 2020, In : IEEE Photonics Technology Letters. 32, 19, p. 1249-1252 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Tree species classification using structural features derived from terrestrial laser scanning**

Terry, L., Calders, K., Disney, M., Origo, N., Malhi, Y., Newnham, G., Raunonen, P., Åkerblom, M. & Verbeeck, H., 1 Oct 2020, In : ISPRS Journal of Photogrammetry and Remote Sensing. 168, p. 170-181 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Fusionsense: Emotion classification using feature fusion of multimodal data and deep learning in a brain-inspired spiking neural network**

Tan, C., Ceballos, G., Kasabov, N. & Subramaniam, N. P., 17 Sep 2020, In : Sensors (Switzerland). 20, 18, 27 p., 5328.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Optically induced crossover from weak to strong coupling regime between surface plasmon polaritons and photochromic molecules**

Asamoah, B. O., Mohamed, S., Datta, S., Karvinen, P., Rekola, H., Priimagi, A. & Hakala, T. K., 31 Aug 2020, In : Optics Express. 28, 18, p. 26509-26518 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **ClothFace: A Batteryless RFID-Based Textile Platform for Handwriting Recognition**

He, H., Chen, X., Mehmood, A., Raivio, L., Huttunen, H., Raunonen, P. & Virkki, J., 28 Aug 2020, In : Sensors (Basel, Switzerland). 20, 17, 12 p., 4878.

Research output: Contribution to journal › Article › Scientific › peer-review

### **High-Power 760 nm VECSEL Based on Quantum Dot Gain Mirror**

Nechay, K., Mereuta, A., Paranthoen, C., Brevalle, G., Levallois, C., Alouini, M., Chevalier, N., Perrin, M., Suruceanu, G., Caliman, A., Kapon, E. & Guina, M., 1 Aug 2020, In : IEEE journal of quantum electronics. 56, 4, 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Edge-enhanced optical parametric generation in periodically poled $\text{LiNbO}_3$**

Prytz, N. B., Qvarngård, D., Härkönen, A., Guina, M. & Gallo, K., 6 Jul 2020, In : Optics Express. 28, 14, p. 20879-20887 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Selective hydrogen production at Pt(111) investigated by Quantum Monte Carlo methods for metal catalysis**

Sharma, R. O., Rantala, T. T. & Hoggan, P. E., 5 Jun 2020, In : International Journal of Quantum Chemistry. 120, 11, e26198.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Low-noise octave-spanning mid-infrared supercontinuum generation in a multimode chalcogenide fiber**

Eslami, Z., Ryczkowski, P., Salmela, L. & Genty, G., 1 Jun 2020, In : Optics Letters. 45, 11, p. 3103-3106 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Zinc-indiffused MgO:PPLN waveguides for blue/UV generation via VECSEL pumping**

Gray, A. C., Woods, J. R. C., Carpenter, L. G., Kahle, H., Berry, S. A., Tropper, A. C., Guina, M., Apostolopoulos, V., Smith, P. G. R. & Gawith, C. B. E., 1 Jun 2020, In : Applied Optics. 59, 16, p. 4921-4926 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Lensless hyperspectral phase imaging in a self-reference setup based on Fourier transform spectroscopy and noise suppression**

Shevkunov, I., Katkovnik, V. & Egiazarian, K., Jun 2020, In : Optics Express. 28, 12, p. 17944-17956 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Hyperspectral phase imaging based on denoising in complex-valued eigensubspace**

Shevkunov, I., Katkovnik, V., Claus, D., Pedrini, G., Petrov, N. V. & Egiazarian, K., 1 Apr 2020, In : Optics and Lasers in Engineering. 127, 10 p., 105973.

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### **Temporal ghost imaging with random fiber lasers**

Wu, H., Han, B., Wang, Z., Genty, G., Feng, G. & Liang, H., 30 Mar 2020, In : Optics Express. 28, 7, p. 9957-9964 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Instabilities in a dissipative soliton-similariton laser using a scalar iterative map**

Meng, F., Lapre, C., Billet, C., Genty, G. & Dudley, J. M., 1 Mar 2020, In : Optics Letters. 45, 5, p. 1232-1235 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **High-dimensional quantum gates using full-field spatial modes of photons**

Brandt, F., Hiekkamäki, M., Bouchard, F., Huber, M. & Fickler, R., 20 Feb 2020, In : Optica. 7, 2, p. 98-107 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Single exposure lensless subpixel phase imaging: Optical system design, modelling, and experimental study**

Kocsis, P., Shevkunov, I., Katkovnik, V. & Egiazarian, K., 17 Feb 2020, In : Optics Express. 28, 4, p. 4625-4637 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Precise length definition of active GaAs-based optoelectronic devices for low-loss silicon photonics integration**

Tuorila, H., Viheriälä, J., Zia, N., Cherchi, M., Harjanne, M., Isoaho, R., Aalto, T. & Guina, M., 15 Feb 2020, In : Optics Letters. 45, 4, p. 943-946 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Comparative Analysis of Injection Microdisk Lasers Based on InGaAsN Quantum Wells and InAs/InGaAs Quantum Dots**

Moiseev, E. I., Maximov, M. V., Kryzhanovskaya, N. V., Simchuk, O. I., Kulagina, M. M., Kadinskaya, S. A., Guina, M. & Zhukov, A. E., 1 Feb 2020, In : Semiconductors. 54, 2, p. 263-267 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Goos-Hänchen and Imbert-Fedorov shifts for epsilon-near-zero materials**

Nieminen, A., Marini, A. & Ornigotti, M., 28 Jan 2020, In : Journal of Optics. 22, 3, 035601.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Sequential Collinear Photofragmentation and Atomic Absorption Spectroscopy for Online Laser Monitoring of Triatomic Metal Species**

Viljanen, J., Kalmankoski, K., Contreras, V., Sarin, J. K., Sorvajärvi, T., Kinnunen, H., Enestam, S. & Toivonen, J., 18 Jan 2020, In : Sensors (Basel, Switzerland). 20, 2, 14 p., 533.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Backscattering-based wireless communication and power transfer to small biomedical implants**

Ukkonen, L., Sydänheimo, L., Ma, S. & Björninen, T., 2020, *Microfluidics, BioMEMS, and Medical Microsystems XVIII*. Gray, B. L. & Becker, H. (eds.). SPIE, 112350A. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 11235).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Controlling the plasmon resonance via epsilon-near-zero multilayer metamaterials**

Habib, M., Briukhanova, D., Das, N., Yildiz, B. C. & Caglayan, H., 2020, In : Nanophotonics. 9, 11, 8 p., 20200245.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Features of correlation measurements of the parameters of pulsed hyperspectral optical fields using an asymmetric interferometer**

Kulya, M. S., Katkovnik, V. Y., Egiazarian, K. & Petrov, N. V., 2020, In : Quantum Electronics. 50, 7, p. 679-682 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Full-field mode sorter using two optimized phase transformations for high-dimensional quantum cryptography**

Fickler, R., Bouchard, F., Giese, E., Grillo, V., Leuchs, G. & Karimi, E., 2020, In : *Journal of Optics (United Kingdom)*. 22, 2, 7 p., 024001.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Harmonic mode-locking fiber ring laser with a pulse repetition rate up to 12 GHz**

Korobko, D. A., Stoliarov, D. A., Itrin, P. A., Odnoblyudov, M. A., Petrov, A. B. & Gumenyuk, R. V., 2020, In : *Optics and laser technology*. 133, 6 p., 106526.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Multiphoton microscopy of the dermoepidermal junction and automated identification of dysplastic tissues with deep learning**

Huttunen, M. J., Hristu, R., Dumitru, A., Floroiu, I., Costache, M. & Stanciu, S. G., 2020, In : *Biomedical Optics Express*. 11, 1, p. 186-199 14 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Neuromorphic Photonics with Coherent Linear Neurons Using Dual-IQ Modulation Cells**

Mourgias-Alexandris, G., Totovic, A., Tsakyridis, A., Passalis, N., Vyrsokinos, K., Tefas, A. & Pleros, N., 2020, In : *Journal of Lightwave Technology*. 38, 4, p. 811-819 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Spectral invariance and scaling law for nonstationary optical fields**

Ding, C., Koivurova, M., Setälä, T., Turunen, J. & Friberg, A. T., 2020, In : *Physical Review A*. 101, 3, 7 p., 033808.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Stabilization of passive harmonic mode locking in a fiber ring laser**

Gumenyuk, R. V., Korobko, D. A. & Zolotovskii, I. O., 23 Dec 2019, In : *Optics Letters*. 45, 1, p. 184-187 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Environmental monitoring with distributed mesh networks: An overview and practical implementation perspective for urban scenario**

Ometov, A., Bezzateev, S., Voloshina, N., Masek, P. & Komarov, M., 2 Dec 2019, In : *Sensors (Switzerland)*. 19, 24, 19 p., 5548.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Eco-friendly flexible wireless platforms by 3D printing pen**

Mehmood, A., Chen, X., He, H., Ukkonen, L. & Virkki, J., 1 Dec 2019, *2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019 - Proceedings*. IEEE, p. 2422-2425 4 p. 9021887. (2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019 - Proceedings).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Embroidered and e-textile conductors embedded inside 3D-printed structures**

Khan, Z., He, H., Chen, X., Ukkonen, L. & Virkki, J., 1 Dec 2019, *2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019 - Proceedings*. IEEE, p. 1675-1680 6 p. 9021681

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Maintenance-free moisture sensor on dishcloth substrate**

Chen, X., He, H., Yang, Y., Gou, M., Sydanheimo, L., Ukkonen, L. & Virkki, J., 1 Dec 2019, *2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019 - Proceedings*. IEEE, p. 2418-2421 4 p. 9021487

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Passive UHF RFID-based user interface on a wooden surface**

Mehmood, A., Vianto, V., He, H., Chen, X., Buruk, O. O., Ukkonen, L. & Virkki, J., 1 Dec 2019, *2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall 2019 - Proceedings*. IEEE, p. 1760-1763 4 p. 9021441

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Resolution and contrast in terahertz pulse time-domain holographic reconstruction**

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Research output: Contribution to journal › Article › Scientific › peer-review

### **Terahertz pulse time-domain holography with balance detection: Complex-domain sparse imaging**

Kulya, M., Petrov, N. V., Katkovnik, V. & Egiazarian, K., 1 Dec 2019, In : Applied Optics. 58, 34, p. G61-G70  
Research output: Contribution to journal › Article › Scientific › peer-review

### **Spectral object recognition in hyperspectral holography with complex-domain denoising**

Shevkunov, I., Katkovnik, V., Claus, D., Pedrini, G., Petrov, N. V. & Egiazarian, K., 26 Nov 2019, In : Sensors (Switzerland). 19, 23, 10 p., 5188.

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### **Path-integral description of quantum nonlinear optics in arbitrary media**

Difallah, M., Szameit, A. & Ornigotti, M., 20 Nov 2019, In : Physical Review A. 100, 5, 053845.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Statistical evaluation of barkhausen noise testing (BNT) for ground samples**

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Research output: Contribution to journal › Article › Scientific › peer-review

### **Near-perfect measuring of full-field transverse-spatial modes of light**

Hiekkamäki, M., Prabhakar, S. & Fickler, R., 28 Oct 2019, In : Optics Express. 27, 22, p. 31456-31464 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **High Power 1.5 $\mu$ m Pulsed Laser Diode with Asymmetric Waveguide and Active Layer Near p-cladding**

Hallman, L. W., Ryykin, B. S., Avrutin, E. A., Aho, A. T., Viheriälä, J., Guina, M. & Kostamovaara, J. T., 15 Oct 2019, In : IEEE Photonics Technology Letters. 31, 20, p. 1635-1638

Research output: Contribution to journal › Article › Scientific › peer-review

### **Double-asymmetric-structure 1.5 $\mu$ m high power laser diodes**

Hallman, L., Ryykin, B. S., Avrutin, E. A., Aho, A. T., Viheriälä, J., Guina, M. & Kostamovaara, J. T., 1 Oct 2019, *Proceedings of the 2019 IEEE High Power Diode Lasers and Systems Conference, HPD 2019 - Co-located with Photonex 2019*. IEEE, p. 19-20 2 p.

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### **Realization of Free-Space Long-Distance Self-Healing Bessel Beams**

Vetter, C., Steinkopf, R., Bergner, K., Ornigotti, M., Nolte, S., Gross, H. & Szameit, A., 1 Oct 2019, In : Laser and Photonics Reviews. 13, 10, 1900103.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Observation of PT-symmetric quantum interference**

Klauck, F., Teuber, L., Ornigotti, M., Heinrich, M., Scheel, S. & Szameit, A., 16 Sep 2019, In : Nature Photonics.

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### **Short-range supercontinuum-based lidar for temperature profiling**

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Research output: Contribution to journal › Article › Scientific › peer-review

### **High power GaInNAs superluminescent diodes emitting over 400 mW in the 1.2 $\mu$ m wavelength range**

Aho, A., Viheriälä, J., Virtanen, H., Zia, N., Isoaho, R. & Guina, M., 22 Aug 2019, In : Applied Physics Letters. 115, 8, 4 p., 081104 .

Research output: Contribution to journal › Article › Scientific › peer-review

#### **AlGaAs/AlGaInP VECSELs with Direct Emission at 740-770 nm**

Nechay, K., Kahle, H., Penttinen, J-P., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 1 Aug 2019, In : IEEE Photonics Technology Letters. 31, 15, p. 1245-1248 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Bayesian inversion of a forest reflectance model using Sentinel-2 and Landsat 8 satellite images**

Schraik, D., Varvia, P., Korhonen, L. & Rautiainen, M., 1 Aug 2019, In : JOURNAL OF QUANTITATIVE SPECTROSCOPY AND RADIATIVE TRANSFER. 233, p. 1-12 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Influence of pump coherence on the generation of position-momentum entanglement in optical parametric down-conversion**

Zhang, W., Fickler, R., Giese, E., Chen, L. & Boyd, R. W., 22 Jul 2019, In : Optics Express. 27, 15, p. 20745-20753 9 p.

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#### **Temporal ghost imaging using wavelength conversion and two-color detection**

Wu, H., Ryczkowski, P., Friberg, A. T., Dudley, J. M. & Genty, G., 20 Jul 2019, In : Optica. 6, 7, p. 902-906 5 p.

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#### **Methods for simultaneous robot-world-hand-eye calibration: A comparative study**

Ali, I., Suominen, O., Gotchev, A. & Morales, E. R., 2 Jun 2019, In : Sensors (Switzerland). 19, 12, 2837.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Bioimpedance Sensor Array for Long-Term Monitoring of Wound Healing from Beneath the Primary Dressings and Controlled Formation of H<sub>2</sub>O<sub>2</sub> Using Low-Intensity Direct Current**

Kekonen, A., Bergelin, M., Johansson, M., Kumar Joon, N., Bobacka, J. & Viik, J., 31 May 2019, In : Sensors. 19, 11

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#### **Double-side pumped membrane external-cavity surface-emitting laser (MECSEL) with increased efficiency emitting > 3 W in the 780 nm region**

Kahle, H., Phung, H-M., Penttinen, J-P., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

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#### **Frequency Comb Generation in a Continuous-Wave Pumped Second-Order Nonlinear Waveguide Resonator**

Abdallah, Z., Stefszky, M., Ulvila, V., Silberhorn, C. & Vainio, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

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#### **GaInAsSb/AlGa(In)AsSb type I quantum wells emitting in 3µm range for application in superluminescent diodes**

Kurka, M., Dyksik, M., Suomalainen, S., Koivusalo, E., Guina, M. & Motyka, M., 1 May 2019, In : Optical Materials. 91, p. 274-278 5 p.

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#### **High-Q resonance train in a plasmonic metasurface**

Saad-Bin-Alam, M., Reshef, O., Huttunen, M. J., Carlow, G., Sullivan, B., Menard, J. M., Dolgaleva, K. & Boyd, R. W., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

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#### **Optical Frequency Comb Photoacoustic Spectroscopy**

Sadiek, I., Mikkonen, T., Vainio, M., Toivonen, J. & Foltynowicz, A., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

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#### **Alpha radiation-induced luminescence by am-241 in aqueous nitric acid solution**

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#### **Positioning information privacy in intelligent transportation systems: An overview and future perspective**

Ometov, A., Bezzateev, S., Davydov, V., Shchesniak, A., Masek, P., Lohan, E. S. & Koucheryavy, Y., 1 Apr 2019, In : *Sensors*. 19, 7, 1603.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Noise measurements from reconstructed digital breast tomosynthesis**

Vimieiro, R. B., Borges, L. R., Caron, R. F., Barufaldi, B., Bakic, P. R., Maidment, A. D. A. & Vieira, M. A. C., 1 Mar 2019, *Medical Imaging 2019: Physics of Medical Imaging*. Schmidt, T. G., Chen, G-H. & Bosmans, H. (eds.). SPIE, IEEE, 109480C. (Progress in Biomedical Optics and Imaging - Proceedings of SPIE; vol. 10948).

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#### **Layered approach for improving the quality of free-viewpoint depth-image-based rendering images**

Smirnov, S., Battisti, F. & Gotchev, A., 27 Feb 2019, In : *Journal of Electronic Imaging*. 28, 1, 013049.

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#### **Experimental realization of wave-packet dynamics in cyclic quantum walks**

Nejadsattari, F., Zhang, Y., Bouchard, F., Larocque, H., Sit, A., Cohen, E., Fickler, R. & Karimi, E., 20 Feb 2019, In : *Optica*. 6, 2, p. 174-180 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Supercontinuum generation: Introduction**

Dubietis, A., Couairon, A. & Genty, G., 1 Feb 2019, In : *Journal of the Optical Society of America B: Optical Physics*. 36, 2, p. SG1-SG3

Research output: Contribution to journal › Editorial › Scientific

#### **Additional lossless compression of JPEG images based on BPG**

Ponomarenko, M., Miroshnichenko, O., Lukin, V. & Egiazarian, K., 13 Jan 2019, *Image Processing: Algorithms and Systems XVII*. (IS and T International Symposium on Electronic Imaging Science and Technology).

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#### **Combined no-reference IQA metric and its performance analysis**

Ieremeiev, O., Lukin, V., Ponomarenko, N. & Egiazarian, K., 13 Jan 2019, *Image Processing: Algorithms and Systems XVII*. (IS and T International Symposium on Electronic Imaging Science and Technology).

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Phosphate glasses with blue persistent luminescence prepared using the direct doping method**

Ojha, N., Tuomisto, M., Lastusaari, M. & Petit, L., Jan 2019, In : *Optical Materials*. 87, p. 151-156

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#### **Comparison of single-side and double-side pumping of membrane external-cavity surface-emitting lasers**

Kahle, H., Penttinen, J. P., Phung, H. M., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 2019, In : *Optics Letters*. 44, 5, p. 1146-1149 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Efficient nonlinear metasurfaces by using multiresonant high-Q plasmonic arrays**

Huttunen, M. J., Reshef, O., Stolt, T., Dolgaleva, K., Boyd, R. W. & Kauranen, M., 2019, In : Journal of the Optical Society of America B: Optical Physics. 36, 7, p. E30-E35

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Flip-chip Wafer-fused OP-VECSELs emitting 3.65 W at the 1.55- $\mu\text{m}$ waveband**

Mereuta, A., Nechay, K., Caliman, A., Suruceanu, G., Rudra, A., Gallo, P., Guina, M. & Kapon, E., 2019, In : IEEE Journal of Selected Topics in Quantum Electronics. 25, 6

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#### **Hyperspectral data denoising for terahertz pulse time-domain holography**

Kulya, M., Petrov, N. V., Tsyppkin, A., Egiazarian, K. & Katkovnik, V., 2019, In : Optics Express. 27, 13, p. 18456-18476 21 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Interferometric autocorrelation measurements of supercontinuum based on two-photon absorption**

Toenger, S., Mäkitalo, R., Ahvenjärvi, J., Ryczkowski, P., Närhi, M., Dudley, J. M. & Genty, G., 2019, In : Journal of the Optical Society of America B: Optical Physics. 36, 5, p. 1320-1326 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Large-scale efficient water harvesting using bioinspired micro-patterned copper oxide nanoneedle surfaces and guided droplet transport**

Sharma, V., Yiannacou, K., Karjalainen, M., Lahtonen, K., Valden, M. & Sariola, V., 2019, In : Nanoscale Advances. 1, 10, p. 4025-4040 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Measuring stem diameters with TLS in boreal forests by complementary fitting procedure**

Pitkänen, T. P., Raunonen, P. & Kangas, A., 2019, In : ISPRS Journal of Photogrammetry and Remote Sensing. 147, p. 294-306 13 p.

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#### **Optical wireless cochlear implants**

Trevlakis, S. E., Boulogeorgos, A. A. A., Sofotasios, P. C., Muhaidat, S. & Karagiannidis, G. K., 2019, In : Biomedical Optics Express. 10, 2, p. 707-730 24 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Random lasing control with optical spatial solitons in nematic liquid crystals**

Piccardi, A., Perumbilavil, S., Kauranen, M., Strangi, G. & Assanto, G., 2019, *PHOTOPTICS 2019 - Proceedings of the 7th International Conference on Photonics, Optics and Laser Technology*. Ribeiro, P., Raposo, M. & Andrews, D. (eds.). SCITEPRESS, p. 289-293 5 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Spatiospectral features of a soliton-assisted random laser in liquid crystals**

Perumbilavil, S., Kauranen, M. & Assanto, G., 2019, In : Optics Letters. 44, 14, p. 3574-3577 4 p.

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#### **Tuning plasmon induced reflectance with hybrid metasurfaces**

Habib, M., Ozbay, E. & Caglayan, H., 2019, In : Photonics. 6, 1, 29.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Intense radioluminescence of NO/N<sub>2</sub>-mixture in solar blind spectral region**

Kerst, T. & Toivonen, J., 24 Dec 2018, In : Optics Express. 26, 26, p. 33764-33771 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Towards optical-frequency-comb generation in continuous-wave-pumped titanium-indiffused lithium-niobate waveguide resonators**

Stefszky, M., Ulvila, V., Abdallah, Z., Silberhorn, C. & Vainio, M., 27 Nov 2018, In : *Physical Review A*. 98, 5, 053850.  
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**Cascaded crystalline raman lasers for extended wavelength coverage: Continuous-wave, third-stokes operation**

Casula, R., Penttinen, J-P., Guina, M., Kemp, A. J. & Hastie, J. E., 20 Nov 2018, In : *Optica*. 5, 11, p. 1406-1413 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**M2M Communication Assessment in Energy-Harvesting and Wake-Up Radio Assisted Scenarios Using Practical Components**

Rinne, J., Keskinen, J., Berger, P. R., Lupo, D. & Valkama, M., 16 Nov 2018, In : *Sensors (Basel, Switzerland)*. 18, 11  
Research output: Contribution to journal > Article > Scientific > peer-review

**Control of Rydberg-state population with realistic femtosecond laser pulses**

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Habib, M., Ozbay, E. & Caglayan, H., 13 Nov 2018, *2018 12th International Congress on Artificial Materials for Novel Wave Phenomena, METAMATERIALS 2018*. IEEE, p. 170-172 3 p.  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Super-resolution microscopy for biological specimens: Lensless phase retrieval in noisy conditions**

Shevkunov, I., Katkovnik, V., Petrov, N. V. & Egiazarian, K., 1 Nov 2018, In : *Biomedical Optics Express*. 9, 11, p. 5511-5523 13 p., #340805.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Metal/Polymer Back Reflectors with Diffraction Gratings for Light Trapping in III-V Solar Cells**

Aho, T., Guina, M., Elsehrawy, F., Cappelluti, F., Raappana, M., Tukiainen, A., Khairul Alam, A. B. M., Vartiainen, I., Kuittinen, M. & Niemi, T., Nov 2018, *2018 IEEE 7th World Conference on Photovoltaic Energy Conversion (WCPEC): A Joint Conference of 45th IEEE PVSC, 28th PVSEC & 34th EU PVSEC*. IEEE, p. 2847-2851 5 p. (CONFERENCE RECORD OF THE IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE).  
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**Demonstration of optical nonlinearity in InGaAsP/InP passive waveguides**

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**Focus model for metric depth estimation in standard plenoptic cameras**

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**Fluorescence bandwidth of 280nm from broadband Ce<sup>3+</sup>-doped silica fiber pumped with blue laser diode**

Yadav, A., Chichkov, N. B., Gumenyuk, R., Zherebtsov, E., Melkumov, M. A., Yashkov, M. V., Dianov, E. M. & Rafailov, E. U., 13 Aug 2018, *2018 International Conference Laser Optics (ICLO)*. IEEE, p. 133-133 1 p. 8435861  
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**Accelerated optical solitons in reorientational media with transverse invariance and longitudinally modulated birefringence**  
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**Multiwavelength surface contouring from phase-coded noisy diffraction patterns: Wavelength-division optical setup**  
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**Temporal dynamics of light-written waveguides in unbiased liquid crystals**

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**1.34  $\mu\text{m}$  VECSEL mode-locked with a GaSb-based SESAM**

Härkönen, A., Suomalainen, S., Rantamäki, A., Nikkinen, J., Wang, Y., Griebner, U., Steinmeyer, G. & Guina, M., 15 Jul 2018, In : Optics Letters. 43, 14, p. 3353-3356 4 p.

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Raunonen, P. & Tarvainen, T., 1 Jul 2018, In : Biomedical Optics Express. 9, 7, p. 2887-2904 18 p.

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**Acquiring respiration rate from photoplethysmographic signal by recursive bayesian tracking of intrinsic modes in time-frequency spectra**

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**Evaluation of dry electrodes in canine heart rate monitoring**

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**Morphology evolution of PS-b-PDMS block copolymer and its hierarchical directed self-assembly on block copolymer templates**

Rasappa, S., Schulte, L., Borah, D., Hulkkonen, H., Ndoni, S., Salminen, T., Senthamarayanan, R., Morris, M. A. & Niemi, T., 15 May 2018, In : Microelectronic Engineering. 192, p. 1-7 7 p.

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**Thermo-optic soliton routing in nematic liquid crystals**

Laudyn, U. A., Piccardi, A., Kwasny, M., Karpierz, M. A. & Assanto, G., 15 May 2018, In : Optics Letters. 43, 10, p. 2296-2299 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Sub-10 optical-cycle passively mode-locked Tm:(Lu<sub>2</sub>/3Sc<sub>1</sub>/3)2O<sub>3</sub> ceramic laser at 2  $\mu\text{m}$**

Wang, Y., Jing, W., Loiko, P., Zhao, Y., Huang, H., Mateos, X., Suomalainen, S., Härkönen, A., Guina, M., Griebner, U. & Petrov, V., 16 Apr 2018, In : Optics Express. 26, 8, p. 10299-10304 6 p.

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#### **Comparison of metal/polymer back reflectors with half-sphere, blazed, and pyramid gratings for light trapping in III-V solar cells**

Aho, T., Guina, M., Elsehrawy, F., Cappelluti, F., Raappana, M., Tukiainen, A., Khairul Alam, A. B. M., Vartiainen, I., Kuittinen, M. & Niemi, T., 19 Mar 2018, In : *Optics Express*. 26, 6, p. A331-A340  
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#### **Ultra-large core birefringent Yb-doped tapered double clad fiber for high power amplifiers**

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#### **87 fs mode-locked Tm,Ho:CaYAlO4 laser at ~2043 nm**

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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#### **Methods and tools for denoising of complex-valued images based on block-matching and high order singular value decomposition**

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#### **Narrow-linewidth 780 nm DFB lasers fabricated using nanoimprint lithography**

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#### **Sub-100 ps monolithic diamond Raman laser emitting at 573 nm**

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#### **High-Power 1180-nm GaInNAs DBR Laser Diodes**

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#### **Investigating solvent effects on aggregation behaviour, linear and nonlinear optical properties of silver nanoclusters**

Bhavitha, K. B., Nair, A. K., Perumbilavil, S., Joseph, S., Kala, M. S., Saha, A., Narayanan, R. A., Hameed, N., Thomas, S., Oluwafemi, O. S. & Kalarikkal, N., 1 Nov 2017, In : Optical Materials. 73, p. 695-705 11 p.

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#### **Diode-pumped Tm: KY(WO<sub>4</sub>)<sub>2</sub> laser passively modelocked with a GaSb-SESAM**

Gaponenko, M., Wittwer, V. J., Härkönen, A., Suomalainen, S., Kuleshov, N., Guina, M. & Südmeyer, T., 16 Oct 2017, In : Optics Express. 25, 21, p. 25760-25766 7 p.

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#### **High power VECSEL prototype emitting at 625 nm**

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Research output: [Other conference contribution](#) › [Paper, poster or abstract](#) › [Scientific](#)

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### **Computational super-resolution phase retrieval from multiple phase-coded diffraction patterns: Simulation study and experiments**

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### **Chiral near-field manipulation in Au-GaAs hybrid hexagonal nanowires**

Petronijevic, E., Centini, M., Belardini, A., Leahu, G., Hakkarainen, T. & Sibilia, C., 26 Jun 2017, In : *Optics Express*. 25, 13, p. 14148-14157 10 p.

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### **Dynamic speckle analysis with smoothed intensity-based activity maps**

Stoykova, E., Berberova, N., Kim, Y., Nazarova, D., Ivanov, B., Gotchev, A., Hong, J. & Kang, H., 1 Jun 2017, In : *Optics and Lasers in Engineering*. 93, p. 55-65 11 p.

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Contreras, V., Toivonen, J. & Martinez, H., 1 Jun 2017, In : *Optics Letters*. 42, 11, p. 2221-2223 3 p.

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Reuna, J., Polojärvi, V. (ed.), Aho, T. (ed.), Aho, A. (ed.), Isoaho, R. (ed.), Tukiainen, A. (ed.) & Guina, M. (ed.), 29 May 2017, p. 1. 1 p.

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### **Reply to "comment on 'Spatial optical solitons in highly nonlocal media'"**

Alberucci, A., Jisha, C. P., Smyth, N. F. & Assanto, G., 25 May 2017, In : *Physical Review A*. 95, 5, 057802.

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### **Anisotropic tapered polarization-maintaining large mode area optical fibers**

Ustimchik, V. E., Rissanen, J., Popov, S. M., Chamorovskii, Y. K. & Nikitov, S. A., 1 May 2017, In : *Optics Express*. 25, 9, p. 10693-10703 11 p.

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Turquet, L., Kakko, J. P., Jiang, H., Isotalo, T. J., Huhtio, T., Niemi, T., Kauppinen, E., Lipsanen, H., Kauranen, M. & Bautista, G., 1 May 2017, In : *Optics Express*. 25, 9, p. 10441-10448 8 p.

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### **Universal scaling relations for the energies of many-electron Hooke atoms**

Odrizola, A., Solanpää, J., Kylänpää, I., González, A. & Räsänen, E., 19 Apr 2017, In : *Physical Review A*. 95, 4, 042511.

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### Halogen bonding stabilizes a cis-azobenzene derivative in the solid state: A crystallographic study

Saccone, M., Siiskonen, A., Fernandez-Palacio, F., Priimägi, A., Terraneo, G., Resnati, G. & Metrangolo, P., 1 Apr 2017, In : ACTA CRYSTALLOGRAPHICA SECTION B : STRUCTURAL SCIENCE, CRYSTAL ENGINEERING AND MATERIALS. 73, 2, p. 227-233 7 p.

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### Simulation studies of DFB laser longitudinal structures for narrow linewidth emission

Virtanen, H., Uusitalo, T. & Dumitrescu, M., 23 Mar 2017, In : Optical and Quantum Electronics. 49, 4, 13 p., 160.

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### 33 W continuous output power semiconductor disk laser emitting at 1275 nm

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Research output: Contribution to journal > Article > Scientific > peer-review

### Diode-pumped mode-locked Tm: LuAG laser at 2 μm based on GaSb-SESAM

Luan, C., Yang, K., Zhao, J., Zhao, S., Li, T., Zhang, H., He, J., Song, L., Dekorsy, T., Guina, M. & Zheng, L., 15 Feb 2017, In : Optics Letters. 42, 4, p. 839-842 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Spin-orbit interactions in optically active materials

Jisha, C. P. & Alberucci, A., 1 Feb 2017, In : Optics Letters. 42, 3, p. 419-422 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Very high dose electron irradiation effects on photoluminescence from GaInNAs/GaAs quantum wells grown by molecular beam epitaxy

Pavelescu, E. M., Bălățeanu, N., Spânulescu, S. I. & Arola, E., 1 Feb 2017, In : Optical Materials. 64, p. 361-365 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Polarization resolved photoluminescence in GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum wells

Balanta, M. A. G., Orsi Gordo, V., Carvalho, A. R. H., Puustinen, J., Alghamdi, H. M., Henini, M., Galeti, H. V. A., Guina, M. & Galvão Gobato, Y., Feb 2017, In : Journal of Luminescence. 182, p. 49-52 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### Architectures and codecs for real-time light field streaming

Kovács, P. T., Zare, A., Balogh, T., Bregovic, R. & Gotchev, A., 1 Jan 2017, In : Journal of Imaging Science and Technology. 61, 1, 010403.

Research output: Contribution to journal > Article > Scientific > peer-review

### All-optical guided-wave random laser in nematic liquid crystals

Perumbilavil, S., Piccardi, A., Buchnev, O., Kauranen, M., Strangi, G. & Assanto, G., 2017, In : Optics Express. 25, 5, p. 4672-4679 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### BM3D-HVS: Content-Adaptive denoising for improved visual quality

Egiazarian, K., Danielyan, A., Ponomarenkoa, N., Foia, A., Ieremeiev, O. & Lukin, V., 2017, *Image Processing: Algorithms and Systems XV*. p. 48-55 8 p. (Electronic Imaging).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### Design of a 25 MWe Solar Thermal Power Plant in Iran with Using Parabolic Trough Collectors and a Two-Tank Molten Salt Storage System

Kordmahaleh, A. A., Naghashzadegan, M., Javaherdeh, K. & Khoshgoftar, M., 2017, In : International Journal of Photoenergy. 2017, 4210184.

Research output: Contribution to journal > Article > Scientific > peer-review

### Evaluation of long-term post process inactivation of bioleaching microorganisms

Bomberg, M., Miettinen, H., Wahlström, M., Kaartinen, T., Ahoranta, S., Lakaniemi, A-M. & Kinnunen, P., 2017, *22nd International Biohydrometallurgy Symposium*. Trans Tech Publications Ltd, p. 57-60 4 p. (Solid State Phenomena; vol. 262

SSP).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Full-reference metrics multidistortional analysis**

Ieremeiev, O., Lukin, V., Ponomarenko, N. & Egiazarian, K., 2017, *Image Processing: Algorithms and Systems XV*. p. 27-35 9 p. (Electronic Imaging).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **High-resolution coded-aperture design for compressive X-ray tomography using low resolution detectors**

Mojica, E., Pertuz, S. & Arguello, H., 2017, In : *Optics Communications*. 404, p. 103-109

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Optimal control of photoelectron emission by realistic waveforms**

Solanpää, J., Ciappina, M. F. & Räsänen, E., 2017, In : *Journal of Modern Optics*. 64, 17, p. 1784-1792 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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Lampio, K. & Karvinen, R., 2017, In : *Microelectronics Reliability*. 79, p. 473-479

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Pipeline for effective denoising of digital mammography and digital breast tomosynthesis**

Borges, L. R., Bakic, P. R., Foi, A., Maidment, A. D. A. & Vieira, M. A. C., 2017, *Medical Imaging 2017: Physics of Medical Imaging*. SPIE, 1013206. (Progress in biomedical optics and imaging).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Thermal Modification of ALD Grown Titanium Oxide Ultra Thin Film for Photoanode Applications**

Hannula, M. K., Lahtonen, K. T., Isotalo, T. J., Saari, J. S. & Valden, M. O., 15 Dec 2016.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

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Assanto, G. & Smyth, N. F., 1 Dec 2016, In : *Journal of Nonlinear Optical Physics and Materials*. 25, 4, 1650041.

Research output: Contribution to journal › Article › Scientific

#### **Fabrication of Ion-Shaped Anisotropic Nanoparticles and their Orientational Imaging by Second-Harmonic Generation Microscopy**

Slablab, A., Isotalo, T. J., Mäkitalo, J., Turquet, L., COULON, P-E., Niemi, T., Ulysse, C., Kociak, M., Maily, D., Rizza, G. & Kauranen, M., 24 Nov 2016, In : *Scientific Reports*. 6, 37469, 10 p., 37469 .

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Frequency-doubled passively Q-switched microchip laser producing 225 ps pulses at 671 nm**

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Research output: Contribution to journal › Article › Scientific › peer-review

#### **VECSEL systems for the generation and manipulation of trapped magnesium ions**

Burd, S. C., Allcock, D. T. C., Leinonen, T., Penttinen, J. P., Slichter, D. H., Srinivas, R., Wilson, A. C., Jördens, R., Guina, M., Leibfried, D. & Wineland, D. J., 8 Nov 2016, In : *Optica*. 3, 12, p. 1294-1299 6 p., 268119.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Adaptive multiresolution method for MAP reconstruction in electron tomography**

Acar, E., Peltonen, S. & Ruotsalainen, U., 1 Nov 2016, In : *Ultramicroscopy*. 170, p. 24-34 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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Reisberg, L., Pärna, R., Kikas, A., Kuusik, I., Kisand, V., Hirsimäki, M., Valden, M. & Nömmiste, E., Nov 2016, In : *Journal of Electron Spectroscopy and Related Phenomena*. 213, p. 11-16 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **RF measurements to pinpoint defects in inkjet-printed, thermally and mechanically stressed coplanar waveguides**

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### **General polarizability and hyperpolarizability estimators for the path-integral Monte Carlo method applied to small atoms, ions, and molecules at finite temperatures**

Tiihonen, J., Kylänpää, I. & Rantala, T. T., 26 Sep 2016, In : *Physical Review A*. 94, 3, 8 p., 032515.

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### **1.3 $\mu\text{m}$ InAs quantum dot semiconductor disk laser**

Blokhin, S. A., Bobrov, M. A., Blokhin, A. A., Kuzmenkov, A. G., Vasil'Ev, A. P., Maleev, N. A., Dudelev, V. V., Soboleva, K. K., Sokolovskii, G. S., Rantamäki, A., Okhotnikov, O. & Ustinov, V. M., 23 Aug 2016, p. R317.

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### **Advanced scheme of amplifier similariton laser**

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Research output: Other conference contribution › Paper, poster or abstract › Scientific

### **State of polarization in anisotropic tapered fiber with extremely large core diameter**

Ustimchik, V. E., Vyatkin, M. Y., Popov, S. M., Chamorovskii, Y. K., Filippov, V. N. & Nikitov, S. A., 23 Aug 2016, p. S123.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

### **Semiclassical two-step model for strong-field ionization**

Shvetsov-Shilovski, N. I., Lein, M., Madsen, L. B., Räsänen, E., Lemell, C., Burgdörfer, J., Arbó, D. G. & Tokési, K., 19 Jul 2016, In : *Physical Review A*. 94, 1, 013415.

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Piccardi, A., Residori, S. & Assanto, G., 1 Jul 2016, In : *Journal of Optics*. 18, 7, 5 p., 07LT01.

Research output: Contribution to journal › Article › Scientific › peer-review

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Burd, S. C., Leinonen, T., Penttinen, J. P., Allcock, D. T. C., Slichter, D. H., Srinivas, R., Wilson, A. C., Guina, M., Leibfried, D. & Wineland, D. J., 2 Jun 2016, *Proceedings of SPIE: Vertical External Cavity Surface Emitting Lasers (VECSELs) VI*. San Francisco: SPIE, Vol. 9734. 8 p. 973411. (SPIE Conference Proceedings).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Roadmap on optical rogue waves and extreme events**

Akhmediev, N., Kibler, B., Baronio, F., Belić, M., Zhong, W. P., Zhang, Y., Chang, W., Soto-Crespo, J. M., Vouzas, P., Grelu, P., Lecaplain, C., Hammani, K., Rica, S., Picozzi, A., Tlidi, M., Panajotov, K., Mussot, A., Bendahmane, A., Szriftgiser, P., Genty, G., Dudley, J., Kudlinski, A., Demircan, A., Morgner, U., Amiranashvili, S., Bree, C., Steinmeyer, G., Masoller, C., Broderick, N. G. R., Runge, A. F. J., Erkintalo, M., Residori, S., Bortolozzo, U., Arecchi, F. T., Wabnitz, S., Tiofack, C. G., Coulibaly, S. & Taki, M., 1 Jun 2016, In : *Journal of Optics*. 18, 6, 063001.

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#### **Temporal coherence characterization of supercontinuum pulse trains using Michelson's interferometer**

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#### **Detection of single microparticles in airflows by edge-filter enhanced self-mixing interferometry**

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#### **Microwave assisted laser-induced breakdown spectroscopy at ambient conditions**

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#### **Validity of power functionals for a homogeneous electron gas in reduced-density-matrix-functional theory**

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#### **Super-resolution in a defocused plenoptic camera: a wave-optics-based approach**

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#### **High-power temperature-stable GaInNAs distributed Bragg reflector laser emitting at 1180 nm**

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#### **Machine-to-machine communications over FiWi enhanced LTE networks: A power-saving framework and end-to-end performance**

Van, D. P., Rimal, B. P., Andreev, S., Tirronen, T. & Maier, M., 15 Feb 2016, In : Journal of Lightwave Technology. 34, 4, p. 1062-1071 10 p.

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#### **Optimization of light field display-camera configuration based on display properties in spectral domain**

Bregovic, R., Kovács, P. & Gotchev, A., 8 Feb 2016, In : Optics Express. 24, 3, p. 3067-3088 22 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Effect of the glass melting condition on the processing of phosphate-based glass-ceramics with persistent luminescence properties**

Massera, J., Gaussiran, M., Głuchowski, P., Lastusaari, M., Petit, L., Hölsä, J. & Hupa, L., 1 Feb 2016, In : Optical Materials. 52, p. 56-61 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Effects of insertion of strain-engineering Ga(In)NAs layers on optical properties of InAs/GaAs quantum dots for high-efficiency solar cells**

Pavelescu, E.-M., Polojärvi, V., Schramm, A., Tukiainen, A., Aho, A., Zhang, W., Puustinen, J., Salmi, J. & Guina, M., 1 Feb 2016, In : Optical Materials. 52, p. 177-180 4 p.

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#### **Ghost imaging in the time domain**

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**Analysis of single mass-regulated particles in precisely controlled trap using laser-induced breakdown spectroscopy**

Järvinen, S. T. & Toivonen, J., 25 Jan 2016, In : Optics Express. 24, 2, p. 1314-1323 10 p.

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**Intensity-based pointwise processing in dynamic laser speckle analysis**

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**Rapid and facile synthesis of graphene oxide quantum dots with good linear and nonlinear optical properties**

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**Incoherent broadband cavity enhanced absorption spectroscopy using supercontinuum and superluminescent diode sources**

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**Performance of intensity-based non-normalized pointwise algorithms in dynamic speckle analysis**

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**Measuring synthesis yield in graphene oxide synthesis by modified hummers method**

Frankberg, E. J., George, L., Efimov, A., Honkanen, M., Pessi, J. & Levänen, E., 2 Sep 2015, In : Fullerenes Nanotubes and Carbon Nanostructures. 23, 9, p. 755-759 5 p.

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**Highly Nonlinear Dispersion Increasing Fiber for Femtosecond Pulse Generation**

Korobko, D. A., Okhotnikov, O. G., Stoliarov, D. A., Sysoliatin, A. A. & Zolotovskii, I. O., 1 Sep 2015, In : Journal of Lightwave Technology. 33, 17, p. 3643-3648 6 p., 7134708.

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**Effects of thinning and heating for TiO<sub>2</sub>/AlInP junctions**

Mäkelä, J., Tuominen, M., Yasir, M., Polojärvi, V., Aho, A., Tukiainen, A., Kuzmin, M., Punkkinen, M. P. J., Laukkanen, P., Kokko, K. & Guina, M., 24 Aug 2015, In : Journal of Electron Spectroscopy and Related Phenomena. 205, p. 6-9 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Bringing High-Performance GaInNAsSb/GaAs SOAs to True Data Applications**

Giannoulis, G., Korpjärvi, V.-M., Iliadis, N., Mäkelä, J., Viheriälä, J., Apostolopoulos, D., Guina, M. & Avramopoulos, H., 15 Aug 2015, In : IEEE Photonics Technology Letters. 27, 16, p. 1691-1694 4 p., 7113825.

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**Influence of relative humidity and physical load during storage on dustiness of inorganic nanomaterials: implications for testing and risk assessment**

Levin, M., Rojas, E., Vanhala, E., Vippola, M., Liguori, B., Kling, K. I., Koponen, I. K., Mølhave, K., Tuomi, T., Gregurec, D., Moya, S. & Jensen, K. A., 14 Aug 2015, In : *Journal of Nanoparticle Research*. 17, 8, 337.

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**Localization of light at vanishingly small disorder-levels with heavy photons**

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**Adiabatic and nonadiabatic static polarizabilities of H and H<sub>2</sub>**

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**Dynamics of rogue wave and soliton emergence in spontaneous modulation instability**

Toenger, S., Godin, T., Billet, C., Dias, F., Erkintalo, M., Genty, G. & Dudley, J. M., 4 May 2015, *CLEO: QELS - Fundamental Science, CLEO\_QELS 2015*. Optical Society of America (OSA), 2 p.

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**Comparison of three light doses in the photodynamic treatment of actinic keratosis using mathematical modeling**

Vignion-Dewalle, A. S., Betrouni, N., Tylcz, J. B., Vermandel, M., Mortier, L. & Mordon, S., 1 May 2015, In : *JOURNAL OF BIOMEDICAL OPTICS*. 20, 5, 058001.

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**Workplace performance of a loose-fitting powered air purifying respirator during nanoparticle synthesis**

Koivisto, A. J., Aromaa, M., Koponen, I. K., Fransman, W., Jensen, K. A., Mäkelä, J. M. & Hämeri, K. J., 9 Apr 2015, In : *Journal of Nanoparticle Research*. 17, 4

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Liu, X., Fan, Y. & Tentzeris, M. M., 1 Apr 2015, In : *Microwave and Optical Technology Letters*. 57, 4, p. 1016-1023 8 p.

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**Broadband infrared continuum generation in dispersion shifted tapered fiber**

Korobko, D. A., Okhotnikov, O. G., Stoliarov, D. A., Sysolyatin, A. A. & Zolotovskii, I. O., 1 Apr 2015, In : *Journal of the Optical Society of America B*. 32, 4, p. 692-700 9 p.

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**Dilute nitride SOAs for high-speed data processing in variable temperature conditions**

Giannoulis, G., Korpijärvi, V. M., Iliadis, N., Mäkelä, J., Viheriälä, J., Apostolopoulos, D., Guina, M. & Avramopoulos, H., 13 Mar 2015, *Optical Fiber Communication Conference, OFC 2015*. OSA - The Optical Society

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Mode-locked Tm,Ho:KLu(WO<sub>4</sub>)<sub>2</sub> laser at 2060 nm using InGaSb-based SESAMs**

Aleksandrov, V., Gluth, A., Petrov, V., Buchvarov, I., Steinmeyer, G., Paajaste, J., Suomalainen, S., Härkönen, A., Guina, M., Mateos, X., Díaz, F. & Griebner, U., 23 Feb 2015, In : *Optics Express*. 23, 4, p. 4614-4619 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **High speed, high strength microwelding of Si/glass using ps-laser pulses**

Miyamoto, I., Okamoto, Y., Hansen, A., Vihinen, J., Amberla, T. & Kangastupa, J., 9 Feb 2015, In : *Optics Express*. 23, 3, p. 3427-3439 13 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **GaSb-based SESAM mode-locked Tm: YAG ceramic laser at 2 $\mu$ m**

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Research output: Contribution to journal > Review Article > Scientific > peer-review

#### **Microfluidic tunable inkjet-printed metamaterial absorber on paper**

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Compact intracavity singly-resonant optical parametric oscillator pumped by GaSb-based vertical external cavity surface-emitting laser: Concept and the main operational characteristics**

Morozov, Y. A., Morozov, M. Y., Kozlovsky, V. I. & Okhotnikov, O. G., 1 Jan 2015, In : *IEEE Journal of Selected Topics in Quantum Electronics*. 21, 1, 5 p.

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#### **Frequency modulation of semiconductor disk laser pulses**

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Generation of a broad IR spectrum and N-soliton compression in a longitudinally inhomogeneous dispersion-shifted fibre**

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#### **Generation of bound states of pulses in a soliton laser with complex relaxation of a saturable absorber**

Zolotovskii, I. O., Korobko, D. A., Gumenyuk, R. V. & Okhotnikov, O. G., 2015, In : *Quantum Electronics*. 45, 1, p. 26-34 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **High-gain 1.3 $\mu$ m GaInNAs semiconductor optical amplifier with enhanced temperature stability for all-optical signal processing at 10 Gb/s**

Fitsios, D., Giannoulis, G., Korpijärvi, V. M., Viheriälä, J., Laakso, A., Iliadis, N., Dris, S., Spyropoulou, M., Avramopoulos, H., Kanellos, G. T., Pleros, N. & Guina, M., 2015, In : *Applied Optics*. 54, 1, p. 46-52 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Interstitial photodynamic therapy and glioblastoma: Light fractionation study on a preclinical model: Preliminary results**

Leroy, H. A., Vermandel, M., Tétard, M. C., Lejeune, J. P., Mordon, S. & Reyns, N., 2015, *Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics II*. SPIE, Vol. 9305. 93050D

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Light-Induced Waveguides in Nematic Liquid Crystals**

Assanto, G. & Smyth, N. F., 2015, In : *IEEE Journal of Selected Topics in Quantum Electronics*. 22, 2, 7128341.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Observation of stable-vector vortex solitons**

Izdebskaya, Y., Assanto, G. & Krolikowski, W., 2015, In : Optics Letters. 40, 17, p. 4182-4185 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Soliton enhancement of spontaneous symmetry breaking**

Alberucci, A., Piccardi, A., Kravets, N., Buchnev, O. & Assanto, G., 2015, In : Optica. 2, 9, p. 783-789 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Supercontinuum generation as a signal amplifier**

Orsila, L., Sand, J., Närhi, M., Genty, G. & Steinmeyer, G., 2015, In : Optica. 2, 8, p. 757-764 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Theoretical treatment of the interaction between two-level atoms and periodic waveguides**

Zang, X. & Lalanne, P., 2015, In : Optics Letters. 40, 16, p. 3869-3872 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Two-time coherence of pulse trains and the integrated degree of temporal coherence**

Dutta, R., Friberg, A. T., Genty, G. & Turunen, J., 2015, In : Journal of the Optical Society of America A: Optics Image Science and Vision. 32, 9, p. 1631-1637 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **$\pi$ -Expanded $\alpha,\beta$ -unsaturated ketones: Synthesis, optical properties, and two-photon-induced polymerization**

Nazir, R., Bourquard, F., Balčiūnas, E., Smoleń, S., Gray, D., Tkachenko, N. V., Farsari, M. & Gryko, D. T., 2015, In : ChemPhysChem. 16, 3, p. 682-690 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

### **Mode-locked 1.33 $\mu\text{m}$ semiconductor disk laser with a bismuth-doped fiber amplifier**

Rantamäki, A., Heikkinen, J., Gumenyuk, R., Lyytikäinen, J., Saarinen, E. J., Leinonen, T., Melkumov, M., Dianov, E. M. & Okhotnikov, O. G., 16 Dec 2014, *ISLC 2014, IEEE 24th International Semiconductor Laser Conference, 7-10 September, 2014, Mallorca, Spain*. The Institute of Electrical and Electronics Engineers, Inc., p. 123-124 2 p. 6987481. (IEEE International Semiconductor Laser Conference).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Vedyn Stark-ilmion ja polarisoituvuuden mallintaminen polkuintegraali-Monte Carlo-menetelmällä**

Translated title of the contribution: : Stark Effect and polarizabilities of hydrogen with path integral Monte Carlo method  
Tiihonen, J., 3 Sep 2014, Tampere University of Technology. 50 p.

Research output: Book/Report › Master's Thesis › Scientific

### **Short-Term and Long-Term Stability in Ytterbium-Doped High-Power Fiber Lasers and Amplifiers**

Ye, C., Petit, L., Koponen, J. J., Hu, I. N. & Galvanuskas, A., 1 Sep 2014, In : IEEE Journal of Selected Topics in Quantum Electronics. 20, 5, 6762841.

Research output: Contribution to journal › Review Article › Scientific › peer-review

### **Bistable optical propagation in nematic liquid crystals**

Piccardi, A., Alberucci, A., Kravets, N., Buchnev, O., Kaczmarek, M. & Assanto, G., 21 Jul 2014, *Nonlinear Photonics, NP 2014*. Optical Society of America OSA

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

### **Enhanced nonlinearity by H-bonded polymer-dye complex in liquid crystal for holographic gratings**

Ouskova, E., Pshenychnyi, A., Sánchez-Ferrer, A., Lysenko, D., Vapaavuori, J. & Kaivola, M., 1 Jul 2014, In : Journal of the Optical Society of America B. 31, 7, p. 1456-1464 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**A 1.33  $\mu\text{m}$  picosecond pulse generator based on semiconductor disk mode-locked laser and bismuth fiber amplifier**  
Heikkinen, J., Gumenyuk, R., Rantamäki, A., Leinonen, T., Melkumov, M., Dianov, E. M. & Okhotnikov, O. G., 19 May 2014, In : *Optics Express*. 22, 10, p. 11446-11455 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Influence of the P2O5/Al2O3 co-doping on the local environment of erbium ions and on the 1.5  $\mu\text{m}$  quantum efficiency of Er<sup>3+</sup>-borosilicate glasses**

Bourhis, K., Boetti, N. G., Koponen, J., Milanese, D. & Petit, L., Mar 2014, In : *Optical Materials*. 36, 5, p. 926-931 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Role of cavity dispersion on soliton grouping in a fiber lasers**

Gumenyuk, R., Korobko, D. A., Zolotovskiy, I. O. & Okhotnikov, O. G., 27 Jan 2014, In : *Optics Express*. 22, 2, p. 1896-1905 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**An Optical Sensor for Volatile Amines Based on an Inkjet-Printed, Hydrogen-Bonded, Cholesteric Liquid Crystalline Film**

Stumpel, J. E., Wouters, C., Herzer, N., Ziegler, J., Broer, D. J., Bastiaansen, C. W. M. & Schenning, A. P. H. J., 2014, In : *Advanced Optical Materials*. 2, 5, p. 459-464 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Polymer stabilization enhances the orientational optical nonlinearity of oligothiophene-doped nematic liquid crystals**

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Research output: Contribution to journal > Article > Scientific > peer-review

**Passive wireless antenna sensor for strain and crack sensing - Electromagnetic modeling, simulation, and testing**

Yi, X., Cho, C., Cooper, J., Wang, Y., Tentzeris, M. M. & Leon, R. T., Aug 2013, In : *Smart Materials and Structures*. 22, 8, 085009.

Research output: Contribution to journal > Article > Scientific > peer-review

**Optical vortices in antiguides**

Marrucci, L., Smyth, N. F. & Assanto, G., 15 May 2013, In : *Optics Letters*. 38, 10, p. 1618-1620 3 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**A near-infrared optoelectronic approach to detection of road conditions**

Colace, L., Santoni, F. & Assanto, G., May 2013, In : *Optics and Lasers in Engineering*. 51, 5, p. 633-636 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Boundary element method for surface nonlinear optics of nanoparticles: Erratum**

Makitalo, J., Suuriniemi, S. & Kauranen, M., 22 Apr 2013, In : *Optics Express*. 21, 8, p. 10205-10206 2 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Comment on "solitons in highly nonlocal nematic liquid crystals: Variational approach"**

Assanto, G. & Smyth, N. F., 17 Apr 2013, In : *Physical Review A*. 87, 4, 047801.

Research output: Contribution to journal > Review Article > Scientific > peer-review

**Dipole polarizabilities of PdN (N = 2-25) clusters**

Ma, L., Wang, J. & Wang, G., Jan 2013, In : *European Physical Journal D*. 67, 1, 6.

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**160W single-frequency laser based on active tapered double-clad fiber amplifier**

Trikshev, A. I., Kurkov, A. S., Tsvetkov, V. B., Filatova, S. A., Kertulla, J., Filippov, V., Chamorovskiy, Y. K. & Okhotnikov, O. G., 2013, *Optics InfoBase Conference Papers*.

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**Calculation of the scalar diffraction field from curved surfaces by decomposing the three-dimensional field into a sum of Gaussian beams**

Şahin, E. & Onural, L., 2013, In : Journal of the Optical Society of America A: Optics Image Science and Vision. 30, 3, p. 527-536 10 p.

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**Deflection of nematicons through interaction with dielectric particles**

Izdebskaya, Y. V., Desyatnikov, A. S., Assanto, G. & Kivshar, Y. S., 2013, In : Journal of the Optical Society of America B. 30, 6, p. 1432-1437 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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Sorvajarvi, T., Rossi, J. & Toivonen, J., 2013, *The European Conference on Lasers and Electro-Optics, CLEO\_Europe 2013*.

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**Spoof-plasmon relevant one-way collimation and multiplexing at beaming from a slit in metallic grating**

Cakmakyapan, S., Serebryannikov, A. E., Caglayan, H. & Ozbay, E., 19 Nov 2012, In : Optics Express. 20, 24, p. 26636-26648 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**All-optical switching of a signal by a pair of interacting nematicons**

Izdebskaya, Y. V., Rebling, J., Desyatnikov, A. S., Assanto, G. & Kivshar, Y. S., 22 Oct 2012, In : Optics Express. 20, 22, p. 24701-24707 7 p.

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**Refraction of nonlinear light beams in nematic liquid crystals**

Assanto, G., Smyth, N. F. & Xia, W., Sep 2012, In : Journal of Nonlinear Optical Physics and Materials. 21, 3, 1250033.

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**Composite chiral metamaterials with negative refractive index and high values of the figure of merit**

Li, Z., Alici, K. B., Caglayan, H., Kafesaki, M., Soukoulis, C. M. & Ozbay, E., 12 Mar 2012, In : Optics Express. 20, 6, p. 6146-6156 11 p.

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**Development of a new illumination procedure for photodynamic therapy of the abdominal cavity**

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**Second-harmonic generation from coupled plasmon modes in a single dimer of gold nanospheres**

Slablab, A., Le Xuan, L., Zielinski, M., De Wilde, Y., Jacques, V., Chauvat, D. & Roch, J. F., 2 Jan 2012, In : Optics Express. 20, 1, p. 220-227 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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Busacca, A. C., Stivala, S., Curcio, L. & Assanto, G., 2012, In : International Journal of Optics. 2012, 606892.

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**Third order nonlinear optical response of TTF-based molecular corners**

Iliopoulos, K., Czaplicki, R., Ouazzani, H. E., Balandier, J-Y., Chas, M., Goeb, S., Sallé, M., Gindre, D. & Sahraoui, B., 2012, In : Nonlinear Optics, Quantum Optics. 43, 1-4, p. 205-212 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Features of randomized electric-field assisted domain inversion in lithium tantalate**

Stivala, S., Buccheri, F., Curcio, L., Oliveri, R. L., Busacca, A. C. & Assanto, G., 5 Dec 2011, In : Optics Express. 19, 25, p. 25780-25785 6 p.

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#### **Localized nonlinear wavepackets with radial-azimuthal modulated nonlinearity and an external potential**

Zhong, W. P., Belić, M. R. & Assanto, G., Nov 2011, In : Physica Scripta. 84, 5, 055001.

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#### **Progress in direct nanoparticle deposition for the development of the next generation fiber lasers**

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Research output: Contribution to journal › Article › Scientific › peer-review

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#### **Photoinduced bending upon pulsed irradiation in azobenzene-containing crosslinked liquid-crystalline polymers**

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#### **Integrated Bragg reflectors in low-index media: Enabling strategies for wavelength tunability in electro-optic liquid crystals**

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Research output: Contribution to journal › Article › Scientific › peer-review



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Research output: Contribution to journal › Article › Scientific › peer-review

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#### **Multimode nematic waveguides**

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Directional selectivity through the subwavelength slit in metallic gratings**

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Izdebskaya, Y. V., Desyatnikov, A. S., Assanto, G. & Kivshar, Y. S., 2011, *Conference on Lasers and Electro-Optics/Pacific Rim, CLEOPR 2011*. p. 1912-1913 2 p.

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#### **Self-assembled monolayers (SAMs) of porphyrin deposited inside solid-core photonic crystal fibre (SCPCF)**

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### **Efficient production of NV colour centres in nanodiamonds using high-energy electron irradiation**

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### **Coherent nonlinear emission from a single KTP nanoparticle with broadband femtosecond pulses**

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Research output: Contribution to journal > Article > Scientific > peer-review

**Designing materials with desired electromagnetic properties**

Bulu, I., Caglayan, H. & Ozbay, E., Dec 2006, In : *Microwave and Optical Technology Letters*. 48, 12, p. 2611-2615 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Plasmonic structures with extraordinary transmission and highly directional beaming properties**

Caglayan, H., Bulu, I. & Ozbay, E., Dec 2006, In : *Microwave and Optical Technology Letters*. 48, 12, p. 2491-2496 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Experimental demonstration of subwavelength focusing of electromagnetic waves by labyrinth-based two-dimensional metamaterials**

Bulu, I., Caglayan, H. & Ozbay, E., 2006, In : *Optics Letters*. 31, 6, p. 814-816 3 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**High power fiber lasers**

Nilsson, J., Sahu, J. K., Jeong, Y., Filippov, V. N., Soh, D. B. S., Codemard, C. A., Dupriez, P., Kim, J., Richardson, D. J., Malinowski, A., Piper, A. N., Price, J. H. V., Furusawa, K., Clarkson, W. A. & Payne, D. N., 2006, *Optics InfoBase Conference Papers*. Optical Society of America

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Experimental demonstration of labyrinth-based left-handed metamaterials**

Bulu, I., Caglayan, H. & Ozbay, E., 12 Dec 2005, In : Optics Express. 13, 25, p. 10238-10247 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Beaming of light and enhanced transmission via surface modes of photonic crystals**

Bulu, I., Caglayan, H. & Ozbay, E., 15 Nov 2005, In : Optics Letters. 30, 22, p. 3078-3080 3 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Highly directional enhanced radiation from sources embedded inside three-dimensional photonic crystals**

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Research output: Contribution to journal › Article › Scientific › peer-review

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Research output: Contribution to journal › Article › Scientific › peer-review

**Walking anisotropic spatial solitons and their steering in nematic liquid crystals**

Peccianti, M., Alberucci, A., Assanto, G., De Luca, A., Coschignano, G. & Umetsu, C., 1 Jan 2005, *Nonlinear Guided Waves and Their Applications, NLGW 2005*. Optical Society of America OSA

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Extraordinary grating-coupled microwave transmission through a subwavelength annular aperture**

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Research output: Contribution to journal › Article › Scientific › peer-review

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Ozbay, E., Bulu, I., Aydin, K., Caglayan, H. & Guven, K., Oct 2004, In : Photonics and Nanostructures - Fundamentals and Applications. 2, 2, p. 87-95 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

 **$^{129}\text{Xe}$  adsorbed in  $\text{AlPO}_4$ -11 molecular sieve: Molecular dynamics simulation of adsorbate dynamics and NMR chemical shift**

Kantola, J. H., Vaara, J., Rantala, T. T. & Jokisaari, J., 22 Oct 1997, In : Journal of Chemical Physics. 107, 16, p. 6470-6478 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Inequivalence of single  $\text{CH}_a$  and  $\text{CH}_b$  methylene bonds in the interior of a diunsaturated lipid bilayer from a molecular dynamics simulation**

Hyvönen, M., Ala-Korpela, M., Vaara, J., Rantala, T. T. & Jokisaari, J., 4 Apr 1997, In : Chemical Physics Letters. 268, 1-2, p. 55-60 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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**Analysis of the magic numbers observed for metallocarbohedrane clusters**

Rantala, T. T., Jelski, D. A., Bowser, J. R., Xia, X. & George, T. F., Mar 1993, In : Zeitschrift für Physik D Atoms, Molecules and Clusters. 26, 1 Supplement, p. 255-257 3 p.

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#### **Effects of repulsion and dispersion forces in liquid crystals: Alignment and deformation of H<sub>2</sub> solute**

Lounila, J. & Rantala, T. T., 1991, In : Physical Review A. 44, 10, p. 6641-6651 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

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#### **Molecular dynamics investigation of the premelting effects of lennard-jones (111) surfaces**

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#### **Direct measurement of the kinetic energy shift between the molecular and atomic M<sub>4,5</sub>N<sub>4,5</sub> Auger spectra of iodine**

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