

Publication and patents

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Summary

- **41** articles published in international, peer-reviewed periodic journals (conference proceedings excluded)
 - 13 APS (9 PRL, 1 PRB(R), 3 PRB)
 - 2 NPG (1 Nature Photonics and 1 Nature Nanotechnology)
 - 12 OSA (4 Optics Letters, 6 Optics Express, 2 JOSAb)
 - 11 AIP (Appl. Phys. Lett.)
 - 1 ACS (Nano Letters)
 - 1 IOP (New Journal of Physics)
 - 1 Wiley (ChemPhysChem)
- **4** issued patents

Publications in periodic, peer-reviewed journals (conference proceedings excluded)

- [41] *Strain-gradient mapping of semiconductor quantum dots*
P.-L. De Assis, I. Yeo, A. Gloppe, H.A. Nguyen, D. Tumanov, E. Dupont-Ferrier, N.S. Malik, E. Dupuy, J. Claudon, J.-M. Gérard, A. Auffèves, O. Arcizet, M. Richard, and J.-Ph Poizat
to appear in **Phys. Rev. Lett.** (2017)
- [40] *A broadband tapered nanocavity for efficient nonclassical light emission*
N. Gregersen, D. McCutcheon, J. Mork, J.M. Gérard, and J. Claudon
Opt. Express **24**, 20904 (2016) | [ZOSA](#)
- [39] *Large and Uniform Optical Emission Shifts in Quantum Dots Strained along Their Growth Axis*
P. Stepanov, M. Elzo-Aizarna, J. Bleuse, N. S. Malik, Y. Curé, E. Gautier, V. Favre-Nicolin, J.-M. Gérard, and J. Claudon, **Nano Lett.** **16**, 3215 (2016) | [ZACS](#)
- [38] *Harvesting, Coupling, and Control of Single-Exciton Coherences in Photonic Waveguide Antennas*
Q. Mermillod, T. Jakubczyk, V. Delmonte, A. Delga, E. Peinke, J.-M. Gérard, J. Claudon, and J. Kasprzak,
Phys. Rev. Lett. **116**, 163903 (2016) | [ZAPS](#)
- [37] *Optimal all-optical switching of a microcavity resonance in the telecom range using the electronic Kerr effect*, E. Yüce, G. Ctistis, J. Claudon, J.-M. Gérard, and W. L. Vos, **Opt. Express** **24**, 239 (2016) | [ZOSA](#)
- [36] *A fiber-coupled quantum-dot on a photonic tip*
D. Cadeddu, J. Teissier, F. Braakman, N. Gregersen, P. Stepanov, J.-M. Gérard, J. Claudon, R. J. Warburton, M. Poggio, and M. Munsch, **Appl. Phys. Lett.** **108**, 011112 (2016) | [ZAIP](#)
- [35] *Highly directive and Gaussian far-field emission from giant photonic trumpets*
P. Stepanov, A. Delga, N. Gregersen, E. Peinke, M. Munsch, J. Teissier, J. Mørk, M. Richard, J. Bleuse, J.-M. Gérard, and J. Claudon, **Appl. Phys. Lett.** **107**, 141106 (2015) | [ZAIP](#)
- [34] *Quantum dot spontaneous emission control in a ridge waveguide*
P. Stepanov, A. Delga, X. Zang, J. Bleuse, E. Dupuy, E. Peinke, P. Lalanne, J.-M. Gérard, and J. Claudon,
Appl. Phys. Lett. **106**, 041112 (2015) | [ZAIP](#)
- [33] *Differential ultrafast all-optical switching of the resonances of a micropillar cavity*
H. Thyrrstrup, E. Yüce, G. Ctistis, J. Claudon, W. L. Vos, and J.-M. Gérard
Appl. Phys. Lett. **105**, 111115 (2014) | [ZAIP](#)
- [32] *Strain-mediated coupling in a quantum dot-mechanical oscillator hybrid system*
I. Yeo, P.-L. de Assis, A. Gloppe, E. Dupont-Ferrier, P. Verlot, N. S. Malik, E. Dupuy, J. Claudon, J.-M. Gérard, A. Auffèves, G. Nogues, S. Seidelin, J.-Ph. Poizat, O. Arcizet, and M. Richard
Nature Nanotech. **9**, 106 (2014) | [ZNPG](#)

◆ Journal cover | [↗](#), News and Views by P. Treutlein: Nature Nanotech. 9, 99 (2014) | [↗](#)

- [31] *Harnessing light with photonic wires: fundamentals and applications to quantum optics*
J. Claudon, N. Gregersen, P. Lalanne, and J. M. Gérard
ChemPhysChem **14**, 2393 (2013) | [↗Wiley](#)
◆ Invited Minireview, journal cover | [↗](#)
- [30] *Dielectric GaAs Antenna Ensuring an Efficient Broadband Coupling between an InAs Quantum Dot and a Gaussian Optical Beam*
M. Munsch, N. S. Malik, E. Dupuy, A. Delga, J. Bleuse, J.-M. Gérard, and J. Claudon
N. Gregersen, and J. Mørk
Phys. Rev. Lett. **110**, 177402 (2013) | [↗APS](#)
- [29] *All-optical switching of a microcavity repeated at terahertz rates*,
E. Yüce, G. Ctistis, J. Claudon, E. Dupuy, R. D. Buijs, B. de Ronde, A. P. Mosk, J.M. Gérard, and W. L. Vos,
Opt. Lett. **38**, 374 (2013) | [↗OSA](#)
- [28] *Competition between electronic Kerr and free-carrier effects in an ultimate-fast optically switched semiconductor microcavity*
E. Yüce, G. Ctistis, J. Claudon, E. Dupuy, K. J. Boller, J.-M. Gérard, and W.L. Vos,
J. Opt. Soc. Am. B **29**, 2630 (2012) | [↗OSA](#)
- [27] *Tuning of a nonlinear THz emitter*
A. Andronico, S. Mariani, F. Ghiglieno, J. Claudon, M. Munsch, J.-M. Gérard, I. Favero, S. Ducci and G. Leo,
Opt. Express **20**, 17678 (2012) | [↗OSA](#)
- [26] *Linearly Polarized, Single Mode Spontaneous Emission in a Photonic Nanowire*
M. Munsch, J. Claudon, J. Bleuse, N. S. Malik, E. Dupuy, and J.-M. Gérard,
Y. Chen, N. Gregersen, and J. Mork
Phys. Rev. Lett. **108**, 077405 (2012) | [↗APS](#)
- [25] *Observation of a stronger-than-adiabatic change of light trapped in an ultrafast switched GaAs-AlAs microcavity*, P. J. Harding, H. J. Bakker, A. Hartsuiker, J. Claudon, A. P. Mosk, J.M. Gérard, and W. L. Vos,
J. Opt. Soc. Am. B **29**, A1 (2012) | [↗OSA](#)
- [24] *Room temperature, continuous wave lasing in microcylinder and microring quantum dot laser diodes*,
M. Munsch, J. Claudon, N. S. Malik, K. Gilbert, P. Grosse, J.-M. Gérard, F. Albert, F. Langer, T. Schlereth,
M. M. Pieczarka, S. Höfling, M. Kamp, A. Forchel, and S. Reitzenstein,
Appl. Phys. Lett. **100**, 031111 (2012) | [↗AIP](#)
- [23] *Surface effects in a semiconductor photonic nanowire and spectral stability of an embedded single quantum dot*, I. Yeo, N. S. Malik, M. Munsch, E. Dupuy, J. Bleuse, Y.-M. Niquet, J.-M. Gérard,
J. Claudon, E. Wagner, S. Seidelin, A. Auffèves, J.-P. Poizat, and G. Nogues
Appl. Phys. Lett. **99**, 233106 (2011) | [↗AIP](#)
- [22] *Nonlinear Coupling between the Two Oscillation Modes of a dc SQUID*
F. Lecocq, J. Claudon, O. Buisson, and P. Milman
Phys. Rev. Lett. **107**, 197002 (2011) | [↗APS](#)
- [21] *Ultimate fast optical switching of a planar microcavity in the telecom wavelength range*
G. Ctistis, E. Yuce, A. Hartsuiker, J. Claudon, M. Bazin, J.-M. Gérard, and W. L. Vos
Appl. Phys. Lett. **98**, 161114 (2011) | [↗AIP](#)
◆ Research Highlights: Nature 473, 127 (2011) | [↗](#); Nature Phys. 7, 446 (2011) | [↗](#); Nature Photon. 5, 383 (2011) | [↗](#)
- [20] *Inhibition, Enhancement, and Control of Spontaneous Emission in Photonic Nanowires*
J. Bleuse, J. Claudon, M. Creasey, N. S. Malik, and J.-M. Gérard
I. Maksymov, J.-P. Hugonin, and P. Lalanne
Phys. Rev. Lett. **106**, 103601 (2011) | [↗APS](#)

- [19] *Optical characterization and selective addressing of the resonant modes of a micropillar cavity with a white light beam*, G. Ctistis, A. Hartsuiker, E van der Pol, J. Claudon, W. L. Vos, and J.-M. Gérard **Phys. Rev. B** **82**, 195330 (2010) | [↗APS](#)
- [18] *Designs for high-efficiency electrically pumped photonic nanowire single-photon sources* N. Gregersen, T. R. Nielsen, J. Mørk, J. Claudon, and J.-M. Gérard **Opt. Express** **18**, 21204 (2010) | [↗OSA](#)
- [17] *A highly efficient single-photon source based on a quantum dot in a photonic nanowire* J. Claudon, J. Bleuse, N. S. Malik, M. Bazin, P. Jaffrennou, N. Gregersen, C. Sauvan, P. Lalanne, and J.-M. Gérard, **Nature Photon.** **4**, 174 (2010) | [↗NPG](#)
♦ Journal cover | [↗](#), News and Views by S. Strauf: *Nature Photon.* **4**, 132 (2010) | [↗](#)
- [16] *Whispering gallery mode lasing in high quality GaAs/AlAs pillar microcavities* P. Jaffrennou, J. Claudon, M. Bazin, N. S. Malik, S. Reitzenstein, L. Worschech, M. Kamp, A. Forchel, and J.-M. Gérard, **Appl. Phys. Lett.** **96**, 071103 (2010) | [↗AIP](#)
- [15] *Solid-state single photon sources: the nanowire antenna* I. Friedler, C. Sauvan, J. P. Hugonin, P. Lalanne, J. Claudon, and J.-M. Gérard **Opt. Express** **17**, 2095 (2009) | [↗OSA](#)
♦ Research Highlights: *Nature Photon.* **3**, 186 (2009) | [↗](#)
- [14] *Efficient photonic mirrors for semiconductor nanowires* I. Friedler, P. Lalanne, J. P. Hugonin, J. Claudon, J. M. Gérard, A. Beveratos, and I. Robert-Philip **Opt. Lett.** **33**, 2635 (2008) | [↗OSA](#)
- [13] *Integrated terahertz source based on three-wave mixing of whispering-gallery modes* A. Andronico, J. Claudon, J. M. Gérard, V. Berger, G. Leo **Opt. Lett.** **33**, 2416 (2008) | [↗OSA](#)
- [12] *Rabi-like oscillations of an anharmonic oscillator: Classical versus quantum interpretation* J. Claudon, A. Zazunov, F. W. J. Hekking, and O. Buisson **Phys. Rev. B** **78**, 184503 (2008) | [↗APS](#)
- [11] *Controlling the emission profile of a nanowire with a conical taper* N. Gregersen, T. R. Nielsen, J. Claudon, J.-M. Gérard, and J. Mork **Opt. Lett.** **33**, 1693 (2008) | [↗OSA](#)
♦ Research Highlights, *Nature Photon.* **2**, 518 (2008) | [↗](#)
- [10] *Ultrafast reset time of superconducting single photon detectors* M. Tarkhov, J. Claudon, J. P. Poizat, A. Korneev, A. Divochiy, O. Minaeva, V. Seleznev, N. Kaurova, B. Voronov, A. V. Semenov, and G. Gol'tsman **Appl. Phys. Lett.** **92**, 241112 (2008) | [↗AIP](#)
- [9] *Electrically driven high-Q quantum dot-micropillar cavities* C. Böckler, S. Reitzenstein, C. Kistner, R. Debusmann, A. Löffler, T. Kida, S. Höfling, A. Forchel, L. Grenouillet, J. Claudon, and J. M. Gérard **Appl. Phys. Lett.** **92**, 091107 (2008) | [↗AIP](#)
- [8] *High-Q whispering gallery modes in GaAs/AlAs pillar microcavities* Y.-R. Nowicki-Bringuier, J. Claudon, C. Böckler, S. Reitzenstein, M. Kamp, A. Morand, A. Forchel, and J.-M. Gérard, **Opt. Express** **15**, 17291 (2007) | [↗OSA](#)

- [7] [Nanosecond quantum state detection in a current biased dc SQUID](#)
J. Claudon, A. Fay, E. Hoskinson, and O. Buisson
Phys. Rev. B **76**, 024508 (2007) | [APS](#)
- [6] [Superconducting single photon detectors made by local oxidation with an atomic force microscope](#)
C. Delacour, J. Claudon, M. Tarkhov, R. Espiau de Lamestre, J. C. Villegier, J.-Ph. Poizat, B. Voronov, and G. Gol'tsman, B. Pannetier, and V. Bouchiat
Appl. Phys. Lett. **90**, 191116 (2007) | [AIP](#)
- [5] [Decoherence processes in a current biased dc SQUID](#)
J. Claudon, A. Fay, L. P. Lévy, and O. Buisson
Phys. Rev. B **73**, 180502(R) (2006) | [APS](#)
- [4] [Weak coupling Josephson junction as a current probe: effect of dissipation on escape dynamics](#)
J. M. Kievioja, T. E. Niemien, J. Claudon, O. Buisson, F. Hekking, and J. P. Pekola
New J. Phys. **7**, 179 (2005) | [IOP](#)
- [3] [Observation of transition from escape dynamics to underdamped phase diffusion in a Josephson junction](#), J. M. Kievioja, T. E. Niemien, J. Claudon, O. Buisson, F. Hekking, and J. P. Pekola
Phys. Rev. Lett. **94**, 247002 (2005) | [APS](#)
- [2] [Coherent oscillations in a superconducting multilevel quantum system](#)
J. Claudon, F. Balestro, F. Hekking, and O. Buisson
Phys. Rev. Lett. **93**, 187003 (2004) | [APS](#)
- [1] [Evidence of two-dimensional macroscopic quantum tunnelling of a current-biased dc SQUID](#)
F. Balestro, J. Claudon, J. P. Pekola, and O. Buisson
Phys. Rev. Lett. **91**, 158301 (2003) | [APS](#)

Patents

- [4] [Optoelectronic arrangement provided with a semiconductor nanowire with a longitudinal section that is surrounded by a part of a mirror](#)
J.-M. Gérard, J. Claudon, P. Lalanne
US 20140326945 (issued November 2014).
- [3] [Terahertz wave emission laser device with a perforated structure](#)
J.-M. Gérard, J. Claudon, G. Leo, A. Andronico, M. Munsch
EP 2660938 (issued November 2013), US 20130287056 (issued October 2013).
- [2] [Electrically driven single photon source](#)
J. Claudon, J.-M. Gérard, N. Gregersen
EP 2457265 (issued May 2012), US 20120161663 (issued June 2012).
- [1] [Terahertz wave emission laser device](#)
J. Claudon, J.-M. Gérard, V. Berger, G. Leo, A. Andronico
EP 2289134 (issued March 2011), US 20110188525 (issued August 2011).