# Damia Gomila

List of Publications by Year
in descending order

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|---|---|---|---|
| 81<br>papers | 1,654<br>citations | 279798<br>23<br>h-index | 302126<br>39<br>g-index |
| 82<br>all docs | 82<br>docs citations | 82<br>times ranked | 770<br>citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Dark solitons in the Lugiato-Lefever equation with normal dispersion. Physical Review A, 2016, 93, . | 2.5 | 105 |
| 2 | Dynamics of localized and patterned structures in the Lugiato-Lefever equation determine the stability and shape of optical frequency combs. Physical Review A, 2014, 89, . | 2.5 | 103 |
| 3 | Origin and stability of dark pulse Kerr combs in normal dispersion resonators. Optics Letters, 2016, 41, 2402. | 3.3 | 89 |
| 4 | Third-order chromatic dispersion stabilizes Kerr frequency combs. Optics Letters, 2014, 39, 2971. | 3.3 | 78 |
| 5 | Dynamical properties of two-dimensional Kerr cavity solitons. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 747. | 2.1 | 75 |
| 6 | Excitability Mediated by Localized Structures in a Dissipative Nonlinear Optical Cavity. Physical Review Letters, 2005, 94, 063905. | 7.8 | 67 |
| 7 | Bifurcation structure of dissipative solitons. Physica D: Nonlinear Phenomena, 2007, 227, 70-77. | 2.8 | 65 |
| 8 | Fairy circle landscapes under the sea. Science Advances, 2017, 3, e1603262. | 10.3 | 60 |
| 9 | Coexistence of stable dark- and bright-soliton Kerr combs in normal-dispersion resonators. Physical Review A, 2017, 95, . | 2.5 | 58 |
| 10 | Stable Droplets and Growth Laws Close to the Modulational Instability of a Domain Wall. Physical Review Letters, 2001, 87, 194101. | 7.8 | 54 |
| 11 | Impact of nonlocal interactions in dissipative systems: Towards minimal-sized localized structures. Physical Review A, 2007, 75, . | 2.5 | 48 |
| 12 | Bifurcation structure of localized states in the Lugiato-Lefever equation with anomalous dispersion. Physical Review E, 2018, 97, 042204. | 2.1 | 48 |
| 13 | Self-localized structures in vertical-cavity surface-emitting lasers with external feedback. Physical Review E, 2008, 78, 016212. | 2.1 | 47 |
| 14 | Photonic Band-Gap Inhibition of Modulational Instabilities. Physical Review Letters, 2004, 92, 253904. | 7.8 | 45 |
| 15 | Vortex solitons in lasers with feedback. Optics Express, 2010, 18, 8859. | 3.4 | 40 |
| 16 | Theory and applications of the Lugiato-Lefever Equation. European Physical Journal D, 2017, 71, 1. | 1.3 | 40 |
| 17 | Phase-space structure of two-dimensional excitable localized structures. Physical Review E, 2007, 75, 026217. | 2.1 | 35 |
| 18 | Dynamical instabilities of dissipative solitons in nonlinear optical cavities with nonlocal materials. Physical Review A, 2008, 77, . | 2.5 | 31 |

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| 19 | Transition from hexagons to optical turbulence. Physical Review A, 2003, 68, . | 2.5 | 30 |
| 20 | Logical operations with localized structures. New Journal of Physics, 2012, 14, 013040. | 2.9 | 28 |
| 21 | Interaction of solitons and the formation of bound states in the generalized Lugiato-Lefever equation. European Physical Journal D, 2017, 71, 1. | 1.3 | 27 |
| 22 | Formation of localized structures in bistable systems through nonlocal spatial coupling. I. General framework. Physical Review E, 2014, 89, 012914. | 2.1 | 26 |
| 23 | Coupled-mode theory for photonic band-gap inhibition of spatial instabilities. Physical Review E, 2005, 72, 016614. | 2.1 | 23 |
| 24 | Formation of localized structures in bistable systems through nonlocal spatial coupling. II. The nonlocal Ginzburg-Landau equation. Physical Review E, 2014, 89, 012915. | 2.1 | 23 |
| 25 | Reduction of power grid fluctuations by communication between smart devices. International Journal of Electrical Power and Energy Systems, 2019, 108, 145-152. | 5.5 | 23 |
| 26 | Dissipative Soliton Excitability Induced by Spatial Inhomogeneities and Drift. Physical Review Letters, 2013, 110, 064103. | 7.8 | 22 |
| 27 | Effects of dynamic-demand-control appliances on the power grid frequency. Physical Review E, 2017, 96, 022302. | 2.1 | 22 |
| 28 | Drifting instabilities of cavity solitons in vertical-cavity surface-emitting lasers with frequency-selective feedback. Physical Review A, 2009, 80, . | 2.5 | 21 |
| 29 | Nonlocality-Induced Front-Interaction Enhancement. Physical Review Letters, 2010, 104, 154101. | 7.8 | 21 |
| 30 | Effects of inhomogeneities and drift on the dynamics of temporal solitons in fiber cavities and microresonators. Optics Express, 2014, 22, 30943. | 3.4 | 21 |
| 31 | Curing Braessâ€™ paradox by secondary control in power grids. New Journal of Physics, 2018, 20, 083005. | 2.9 | 20 |
| 32 | Stable droplets and dark-ring cavity solitons in nonlinear optical devices. IEEE Journal of Quantum Electronics, 2003, 39, 238-244. | 1.9 | 19 |
| 33 | Observation of laser vortex solitons in a self-focusing semiconductor laser. Journal of Optics (United Kingdom), 2013, 15, 044011. | 2.2 | 19 |
| 34 | Effects of a localized beam on the dynamics of excitable cavity solitons. Physical Review A, 2008, 78, . | 2.5 | 16 |
| 35 | Bifurcation structure of periodic patterns in the Lugiato-Lefever equation with anomalous dispersion. Physical Review E, 2018, 98, . | 2.1 | 16 |
| 36 | Two-Dimensional Front Dynamics and Spatial Solitons in a Nonlinear Optical System. Physical Review Letters, 2007, 99, 153902. | 7.8 | 15 |

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| 37 | Subcritical patterns and dissipative solitons due to intracavity photonic crystals. Physical Review A, 2007, 76, . | 2.5 | 14 |
| 38 | Fluctuations and correlations in hexagonal optical patterns. Physical Review E, 2002, 66, 046223. | 2.1 | 13 |
| 39 | Dynamics of hexagonal patterns in a self-focusing Kerr cavity. Physical Review E, 2007, 76, 016217. | 2.1 | 13 |
| 40 | Vortex nucleation in Bose-Einstein condensates due to effective magnetic fields. Physical Review A, 2009, 79, . | 2.5 | 13 |
| 41 | Stable droplets and nucleation in asymmetric bistable nonlinear optical systems. Journal of Optics B: Quantum and Semiclassical Optics, 2004, 6, S265-S270. | 1.4 | 12 |
| 42 | Theory for the Spatiotemporal Dynamics of Domain Walls close to a Nonequilibrium Ising-Bloch Transition. Physical Review Letters, 2015, 114, 084101. | 7.8 | 10 |
| 43 | Secondary bifurcations of hexagonal patterns in a nonlinear optical system: Alkali metal vapor in a single-mirror arrangement. Physical Review E, 2004, 69, 036205. | 2.1 | 9 |
| 44 | Spontaneous and induced motion of optical patterns. Applied Physics B: Lasers and Optics, 2005, 81, 963-968. | 2.2 | 9 |
| 45 | Assessing Blackout Risk With High Penetration of Variable Renewable Energies. IEEE Access, 2021, 9, 132663-132674. | 4.2 | 9 |
| 46 | Effects of demand control on the complex dynamics of electric power system blackouts. Chaos, 2020, 30, 113121. | 2.5 | 8 |
| 47 | Domain wall dynamics: Growth laws, localized structures and stable droplets. European Physical Journal: Special Topics, 2007, 146, 71-86. | 2.6 | 7 |
| 48 | Traveling pulses in type-I excitable media. Physical Review E, 2021, 104, L052203. | 2.1 | 7 |
| 49 | Self-localized states in species competition. Physical Review E, 2014, 89, 032724. | 2.1 | 6 |
| 50 | Patterns, localized structures and fronts in a reduced model of clonal plant growth. Physica D: Nonlinear Phenomena, 2020, 414, 132723. | 2.8 | 6 |
| 51 | General model for vegetation patterns including rhizome growth. Physical Review Research, 2020, 2, . | 3.6 | 6 |
| 52 | Competition between drift and spatial defects leads to oscillatory and excitable dynamics of dissipative solitons. Physical Review E, 2016, 93, 012211. | 2.1 | 5 |
| 53 | Fluctuations and correlations in Kerr optical frequency combs with additive Gaussian noise. Chaos, 2020, 30, 083146. | 2.5 | 5 |
| 54 | Elementary excitations of a Bose-Einstein condensate in an effective magnetic field. Physical Review A, 2007, 76, . | 2.5 | 4 |

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| 55 | Effects of noise on excitable dissipative solitons. European Physical Journal D, 2010, 59, 37-42. | 1.3 | 4 |
| 56 | All Optical Logical Operations Using Excitable Cavity Solitons. , 2010, , . | | 3 |
| 57 | Curvature effects and radial homoclinic snaking. IMA Journal of Applied Mathematics, 2021, 86, 1094-1111. | 1.6 | 3 |
| 58 | Tuning quantum correlations with intracavity photonic crystals. Physical Review A, 2011, 84, . | 2.5 | 2 |
| 59 | Front interaction induces excitable behavior. Physical Review E, 2017, 95, 020201. | 2.1 | 2 |
| 60 | <title>Localized structures in nonlinear optical cavities</title>. , 2006, , . | | 1 |
| 61 | Classical and quantum effects in spatially modulated optical parametric oscillators. European Physical Journal: Special Topics, 2012, 203, 217-225. | 2.6 | 1 |
| 62 | Modeling Kerr frequency combs using the Lugiato-Lefever equation: a characterization of the multistable landscape. , 2014, , . | | 1 |
| 63 | Excitability of Localized Structures in Kerr Media. , 2006, , . | | 0 |
| 64 | Spatial Dissipative Solitons with Intra-Cavity Photonic Crystals. , 2007, , . | | 0 |
| 65 | Growth laws, pinning and localized structures: an experiment in sodium vapor. , 2007, , . | | 0 |
| 66 | Sub-diffraction-limited localized structures: influence of linear non-local interactions. , 2008, , . | | 0 |
| 67 | Control of spatial quantum fluctuations using photonic crystals. Proceedings of SPIE, 2008, , . | 0.8 | 0 |
| 68 | Cavity soliton properties and dynamics in a VCSEL with frequency-filtered feedback. , 2009, , . | | 0 |
| 69 | Control of spatial instabilities with intracavity photonic crystals. , 2009, , . | | 0 |
| 70 | Observation of vortex soliton states in vertical-cavity surface-emitting lasers with feedback. , 2013, , . | | 0 |
| 71 | Spatio-temporal stability of 1D Kerr cavity solitons. , 2014, , . | | 0 |
| 72 | Minimal model dynamics for twelvefold quasipatterns. Physical Review E, 2014, 89, 032923. | 2.1 | 0 |

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|---|---|---|---|
| 73 | Characterizing the dynamics of cavity solitons and frequency combs in the Lugiato-Lefever equation. , 2016, , . | | 0 |
| 74 | Dark ring cavity solitons and stable droplets in models of nonlinear optical cavities. , 2002, , . | | 0 |
| 75 | Bifurcation structure and asymmetric sequences of cavity solitons. , 2005, , . | | 0 |
| 76 | Excitability mediated by localized structures. , 2005, , . | | 0 |
| 77 | Excitability Mediated by Localized Structures in Kerr Cavities. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2007, 3, 349-353. | 0.4 | 0 |
| 78 | Interaction of oscillatory and excitable localized states in a nonlinear optical cavity. , 2011, , 241-264. | | 0 |
| 79 | Stabilization of frequency combs using third order dispersion. , 2014, , . | | 0 |
| 80 | Stability Analysis of Dark Pulse Kerr Frequency Combs in Normal Dispersion Optical Microresonators. , 2016, , . | | 0 |
| 81 | Origin and stability of dark pulse Kerr frequency combs in normal dispersion microresonators. , 2016, , . | | 0 |