

# Juan Baena

## List of Publications by Year in descending order

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78  
papers

2,661  
citations

257101

24  
h-index

301761

39  
g-index

78  
all docs

78  
docs citations

78  
times ranked

1917  
citing authors

#	ARTICLE	IF	CITATIONS
1	Babinet Principle Applied to the Design of Metasurfaces and Metamaterials. Physical Review Letters, 2004, 93, 197401.	2.9	784
2	Artificial magnetic metamaterial design by using spiral resonators. Physical Review B, 2004, 69, .	1.1	367
3	On the resonances and polarizabilities of split ring resonators. Journal of Applied Physics, 2005, 98, 033103.	1.1	120
4	Broadband and Thin Linear-to-Circular Polarizers Based on Self-Complementary Zigzag Metasurfaces. IEEE Transactions on Antennas and Propagation, 2017, 65, 4124-4133.	3.1	98
5	Self-complementary metasurfaces for linear-to-circular polarization conversion. Physical Review B, 2015, 92, .	1.1	84
6	Electroinductive waves in chains of complementary metamaterial elements. Applied Physics Letters, 2006, 88, 083503.	1.5	77
7	Near-perfect tunneling and amplification of evanescent electromagnetic waves in a waveguide filled by a metamaterial: Theory and experiments. Physical Review B, 2005, 72, .	1.1	75
8	Towards a systematic design of isotropic bulk magnetic metamaterials using the cubic point groups of symmetry. Physical Review B, 2007, 76, .	1.1	72
9	Unified homogenization theory for magnetoinductive and electromagnetic waves in split-ring metamaterials. Physical Review A, 2008, 78, .	1.0	70
10	Characterization of miniaturized metamaterial resonators coupled to planar transmission lines through parameter extraction. Journal of Applied Physics, 2008, 104, 114501.	1.1	67
11	Application of complementary split-ring resonators to the design of compact narrow band-pass structures in microstrip technology. Microwave and Optical Technology Letters, 2005, 46, 508-512.	0.9	64
12	Three-dimensional superresolution in metamaterial slab lenses: Experiment and theory. Physical Review B, 2005, 72, .	1.1	62
13	Self-Complementary Metasurface for Designing Narrow Band Pass/Stop Filters. IEEE Microwave and Wireless Components Letters, 2013, 23, 291-293.	2.0	62
14	Ab initioanalysis of frequency selective surfaces based on conventional and complementary split ring resonators. Journal of Optics, 2005, 7, S38-S43.	1.5	51
15	Electrically small isotropic three-dimensional magnetic resonators for metamaterial design. Applied Physics Letters, 2006, 88, 134108.	1.5	50
16	Isotropic frequency selective surfaces made of cubic resonators. Applied Physics Letters, 2007, 91, .	1.5	44
17	Periodic arrangements of chiral scatterers providing negative refractive index bi-isotropic media. Physical Review B, 2008, 77, .	1.1	38
18	Complementary split-ring resonator for compact waveguide filter design. Microwave and Optical Technology Letters, 2005, 46, 88-92.	0.9	32

#	ARTICLE	IF	CITATIONS
19	Broadband Huygens <sup>TM</sup> Metasurface Based on Hybrid Resonances. <i>Physical Review Applied</i> , 2018, 10, .	1.5	32
20	Spatial Angular Filtering by FSSs Made of Chains of Interconnected SRRs and CSRRs. <i>IEEE Microwave and Wireless Components Letters</i> , 2013, 23, 477-479.	2.0	30
21	Stop-band and band-pass characteristics in coplanar waveguides coupled to spiral resonators. <i>Microwave and Optical Technology Letters</i> , 2004, 42, 386-388.	0.9	28
22	Resonance and Cross-Polarization Effects in Conventional and Complementary Split Ring Resonator Periodic Screens. <i>Electromagnetics</i> , 2006, 26, 247-260.	0.3	28
23	Bulk Metamaterials Made of Resonant Rings. <i>Proceedings of the IEEE</i> , 2011, 99, 1660-1668.	16.4	27
24	Nonlocal homogenization of an array of cubic particles made of resonant rings. <i>Metamaterials</i> , 2009, 3, 115-128.	2.2	24
25	An artificial dielectric slab for ultra high-field MRI: Proof of concept. <i>Journal of Magnetic Resonance</i> , 2020, 320, 106835.	1.2	23
26	Self-complementary metasurfaces for designing terahertz deflecting circular-polarization beam splitters. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	22
27	Metamaterial-inspired perfect tunnelling in semiconductor heterostructures. <i>New Journal of Physics</i> , 2011, 13, 083011.	1.2	21
28	Reducing losses and dispersion effects in multilayer metamaterial tunnelling devices. <i>New Journal of Physics</i> , 2005, 7, 166-166.	1.2	19
29	Novel microstrip backward coupler with metamaterial cells for fully planar fabrication techniques. <i>Microwave and Optical Technology Letters</i> , 2006, 48, 1205-1209.	0.9	19
30	Surface Waves on Self-Complementary Metasurfaces: All-Frequency Hyperbolicity, Extreme Canalization, and TE-TM Polarization Degeneracy. <i>Physical Review X</i> , 2021, 11, .	2.8	17
31	Theory of three-dimensional subdiffraction imaging. <i>Applied Physics Letters</i> , 2006, 89, 211113.	1.5	16
32	Improving homogeneity in abdominal imaging at 3 T with light, flexible, and compact metasurface. <i>Magnetic Resonance in Medicine</i> , 2022, 87, 496-508.	1.9	15
33	Frequency-Controllable Polarization Rotation of THz Waves With an SCMS. <i>IEEE Transactions on Antennas and Propagation</i> , 2020, 68, 1491-1502.	3.1	14
34	A Focusing Circular-Polarization THz Beam Splitter Based on a Self-Complementary Metasurface. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2021, 11, 165-174.	2.0	12
35	Extension of Babinet's principle for plasmonic metasurfaces. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	11
36	A perfect lens for ballistic electrons: An electron-light wave analogy. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2014, 12, 9-15.	1.0	8

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37	Direct Polarizability Extraction Method. , 2006, , .		7
38	A band-pass/stop filter made of SRRs and C-SRRs. , 2011, , .		7
39	Thickness effects on the resonance of metasurfaces made of SRRs and C-SRRs. , 2013, , .		6
40	A general method to retrieve electromagnetic polarizability tensors of metamaterial resonators. , 2013, , .		5
41	Optimal angular stability of reflectionless metasurface absorbers. Physical Review B, 2021, 103, .	1.1	5
42	Miniaturization and Characterization of Metamaterial Resonant Particles. , 2008, , .		4
43	Extremely thin Fabry-Perot resonators based on high permittivity artificial dielectric. , 2016, , .		4
44	Metasurfaces made of transmission lines: A way to spatial filtering. , 2013, , .		3
45	Metasurfaces for angular filtering and beam scanning. , 2014, , .		3
46	Waveguide model for thick complementary split ring resonators. , 2014, , .		3
47	Linear to circular polarization converters based on self-complementary metasurfaces. , 2014, , .		3
48	Broadband transparent metasurfaces for full phase shift and polarization control. , 2016, , .		3
49	Broadband-Reflectionless Perfect Absorber Made of Planar Resonators. , 2018, , .		3
50	Self-complementary metasurfaces as efficient tools for polarization sensitive control of THz beams. , 2019, , .		3
51	Left-handed metamaterials matched to free space through mechanical tuning. , 2019, , .		3
52	Babinet's principle and saturation of the resonance frequency of scaled-down complementary metasurfaces. Applied Physics Letters, 2021, 118, .	1.5	3
53	Equivalent circuit model for thick split ring resonators and thick spiral resonators. , 2014, , .		2
54	Broadband Uniaxial Dielectric-Magnetic Metamaterial with Giant Anisotropy Factor. , 2020, , .		2

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55	Retrieval of the Constitutive Parameters and Dispersion Relation of Glide-Symmetric Metamaterials via the Multimodal Transfer Matrix Method. , 2020, , .		2
56	Experimental demonstration of the saturation and weakening of the resonant response of the SRR and the CSRR. , 2013, , .		1
57	Duality for 3D metamaterial resonators?. , 2014, , .		1
58	Self-complementary zig-zag metasurfaces for designing circular polarizing beam splitters. , 2015, , .		1
59	Low plasma frequency zigzag metamaterials. , 2016, , .		1
60	Self-complementary tessellations as universal design approach for LP-to-CP transforming frequency selective surfaces. , 2018, , .		1
61	Quasi-isotropic Huygens resonant scatterer in microwaves. , 2019, , .		1
62	Comparison of angular-selective metasurfaces as tools for sub-THz single-frequency sensing. Journal of Physics: Conference Series, 2021, 2015, 012158.	0.3	1
63	On the Lorentz's homogenization method applied to metamaterials presenting strong spatial dispersion. , 2010, , .		0
64	Extremely thin infrared absorbers made of metallo-dielectric core-shell nanospheres. , 2013, , .		0
65	The duality relation for 2d complementary optical nanocircuits. , 2013, , .		0
66	Theoretical constraints on reflection and transmission through metasurfaces. , 2014, , .		0
67	Controlling the cross-polarization effects of metasurfaces from the lowest to the highest possible value. , 2015, , .		0
68	Resonating elements longer than the unit cell: A way to make very dense broadband left-handed metamaterials. , 2015, , .		0
69	Experimental characterization of microwave self-complimentary metasurfaces for linear-to-circular polarization transform. , 2016, , .		0
70	The Physics of Self-Complementary Metasurfaces Under Circularly Polarized Waves. , 2018, , .		0
71	Validity of homogenization for Artificial Plasmas: Straight Strips Versus Zigzag Strips. , 2018, , .		0
72	Huygensâ€™ metasurfaces covering from waveplates to perfect absorbers. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
73	Characterizing Metamaterial Resonators and Finite Metasurfaces by the Method of Moments. , 2018, , .		0
74	The Physics of Self-Complementary Metasurfaces. , 2018, , .		0
75	A linear-to-circular polarization converter with broadband transparency based on Huygensâ€™ metasurface. , 2018, , .		0
76	Non-Linear High Permittivity Artificial Dielectric. , 2019, , .		0
77	Reflectionless perfect absorber with low angular and polarization sensitivity. , 2019, , .		0
78	Artificial dielectric for 7T MRI. AIP Conference Proceedings, 2020, , .	0.3	0