Raul R Cordero

List of Publications by Year
in descending order

87 papers	1,695 citations	331670 21 h-index	377865 34 g-index
90 all docs	90 docs citations	90 times ranked	1927 citing authors

#	Article	IF	Citations
1	Anthropogenic drying in central-southern Chile evidenced by long-term observations and climate model simulations. Elementa, 2018, 6, .	3.2	94
2	Effects of soiling on photovoltaic (PV) modules in the Atacama Desert. Scientific Reports, 2018, 8, 13943.	3.3	82
3	Climate change extremes and photovoltaic power output. Nature Sustainability, 2021, 4, 270-276.	23.7	72
4	The worldâ€™s highest levels of surface UV. Photochemical and Photobiological Sciences, 2013, 13, 70-81.	2.9	70
5	The Solar Spectrum in the Atacama Desert. Scientific Reports, 2016, 6, 22457.	3.3	69
6	Observations and Projections of Heat Waves in South America. Scientific Reports, 2019, 9, 8173.	3.3	67
7	Evaluation of Himawari-8 surface downwelling solar radiation by ground-based measurements. Atmospheric Measurement Techniques, 2018, 11, 2501-2521.	3.1	53
8	Ultraviolet radiation in the Atacama Desert. Antonie Van Leeuwenhoek, 2018, 111, 1301-1313.	1.7	48
9	Energetic particle precipitation: A major driver of the ozone budget in the Antarctic upper stratosphere. Geophysical Research Letters, 2016, 43, 3554-3562.	4.0	42
10	Black carbon and other light-absorbing impurities in snow in the Chilean Andes. Scientific Reports, 2019, 9, 4008.	3.3	42
11	A review of the observed air temperature in the Antarctic Peninsula. Did the warming trend come back after the early 21st hiatus?. Polar Science, 2021, 28, 100653.	1.2	38
12	Uncertainty analysis of temporal phase-stepping algorithms for interferometry. Optics Communications, 2007, 275, 144-155.	2.1	32
13	Uncertainty of experimental integrals: application to the UV index calculation. Metrologia, 2008, 45, 1-10.	1.2	32
14	Whole-field analysis of uniaxial tensile tests by MoirÃ© interferometry. Optics and Lasers in Engineering, 2005, 43, 919-936.	3.8	31
15	Comparison of atmospheric spectral radiance measurements from five independently calibrated systems. Photochemical and Photobiological Sciences, 2009, 8, 516-527.	2.9	28
16	Three years of ground-based total ozone measurements in the Arctic: Comparison with OMI, GOME and SCIAMACHY satellite data. Remote Sensing of Environment, 2012, 127, 162-180.	11.0	28
17	UV index values and trends in Santiago, Chile (33.5Â°S) based on ground and satellite data. Journal of Photochemistry and Photobiology B: Biology, 2012, 115, 73-84.	3.8	27
18	Black carbon footprint of human presence in Antarctica. Nature Communications, 2022, 13, 984.	12.8	26

#	Article	IF	Citations
19	Uncertainty evaluation of spectral UV irradiance measurements. Measurement Science and Technology, 2008, 19, 045104.	2.6	25
20	Rural Electrification Efforts Based on Off-Grid Photovoltaic Systems in the Andean Region: Comparative Assessment of Their Sustainability. Sustainability, 2017, 9, 1825.	3.2	25
21	Oceanographic Variability induced by Tides, the Intraseasonal Cycle and Warm Subsurface Water intrusions in Maxwell Bay, King George Island (West-Antarctica). Scientific Reports, 2019, 9, 18571.	3.3	24
22	The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH). Bulletin of the American Meteorological Society, 2020, 101, E1653-E1676.	3.3	24
23	Uncertainty evaluation of displacements measured by electronic speckle-pattern interferometry. Optics Communications, 2004, 241, 279-292.	2.1	22
24	Measuring displacement derivatives by electronic speckle pattern shearing interferometry (ESPSI). Measurement Science and Technology, 2005, 16, 1677-1683.	2.6	22
25	On two methods to evaluate the uncertainty of derivatives calculated from polynomials fitted to experimental data. Metrologia, 2005, 42, 39-44.	1.2	22
26	Dry-Season Snow Cover Losses in the Andes (18Â°â€“40Â°S) driven by Changes in Large-Scale Climate Modes. Scientific Reports, 2019, 9, 16945.	3.3	22
27	Spectral characterization, radiative forcing and pigment content of coastal Antarctic snow algae: approaches to spectrally discriminate red and green communities and their impact on snowmelt. Cryosphere, 2021, 15, 133-148.	3.9	22
28	Assigning probability density functions in a context of information shortage. Metrologia, 2004, 41, L22-L25.	1.2	21
29	Uncertainty analysis of displacements measured by phase-shifting MoirÃ© interferometry. Optics Communications, 2004, 237, 25-36.	2.1	21
30	Economic growth or environmental protection?. Environmental Science and Policy, 2005, 8, 392-398.	4.9	21
31	Uncertainty evaluation of the spectral UV irradiance evaluated by using the UVSPEC radiative transfer model. Optics Communications, 2007, 276, 44-53.	2.1	20
32	Effect of the resolution on the uncertainty evaluation. Metrologia, 2006, 43, L33-L38.	1.2	19
33	Impact of January 2005 solar proton events on chlorine species. Atmospheric Chemistry and Physics, 2012, 12, 4159-4179.	4.9	19
34	UV Irradiance and Albedo at Union Glacier Camp (Antarctica): A Case Study. PLoS ONE, 2014, 9, e90705.	2.5	19
35	Are the Rural Electrification Efforts in the Ecuadorian Amazon Sustainable?. Sustainability, 2016, 8, 443.	3.2	19
36	Sustainability of rural electrification programs based on off-grid photovoltaic (PV) systems in Chile. Energy, Sustainability and Society, 2016, 6, .	3.8	18

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37	Dual-plane slightly off-axis digital holography based on a single cube beam splitter. Applied Optics, 2018, 57, 2727.	1.8	18
38	The uncertainty of experimental derivatives: application to strain measurement. Measurement Science and Technology, 2004, 15, 2381-2388.	2.6	17
39	Aerosol effects on the UV irradiance in Santiago de Chile. Atmospheric Research, 2014, 149, 282-291.	4.1	17
40	Monte Carlo-based uncertainties of surface UV estimates from models and from spectroradiometers. Metrologia, 2013, 50, L1-L5.	1.2	16
41	Cloud cover and UV index estimates in Chile from satellite-derived and ground-based data. Atmospheric Research, 2014, 138, 139-151.	4.1	16
42	Analysis of optical configurations for ESPI. Optics and Lasers in Engineering, 2008, 46, 48-54.	3.8	15
43	Connection between Antarctic Ozone and Climate: Interannual Precipitation Changes in the Southern Hemisphere. Atmosphere, 2020, 11, 579.	2.3	15
44	Oxygen Pathways and Budget for the Eastern South Pacific Oxygen Minimum Zone. Journal of Geophysical Research: Oceans, 2018, 123, 1722-1744.	2.6	14
45	Is Peru Prepared for Large-Scale Sustainable Rural Electrification?. Sustainability, 2018, 10, 1683.	3.2	14
46	Adaptation of Black Carbon Footprint Concept Would Accelerate Mitigation of Global Warming. Environmental Science & Technology, 2019, 53, 12153-12155.	10.0	14
47	Climatology of surface ultraviolet-radiation in Valparaiso, Chile. Energy Conversion and Management, 2005, 46, 2907-2918.	9.2	13
48	Monitoring the strain-rate progression of an aluminium sample undergoing tensile deformation by electronic speckle-pattern interferometry (ESPI). Journal Physics D: Applied Physics, 2006, 39, 2419-2426.	2.8	13
49	Exploitation of spectral direct UV irradiance measurements. Metrologia, 2009, 46, 19-25.	1.2	13
50	Analyzing Precipitation Changes in the Northern Tip of the Antarctic Peninsula during the 1970â€“2019 Period. Atmosphere, 2020, 11, 1270.	2.3	13
51	Persistent extreme ultraviolet irradiance in Antarctica despite the ozone recovery onset. Scientific Reports, 2022, 12, 1266.	3.3	13
52	Strain maps obtained by phase-shifting interferometry: An uncertainty analysis. Optics Communications, 2008, 281, 2195-2206.	2.1	12
53	Cosine error influence on ground-based spectral UV irradiance measurements. Metrologia, 2008, 45, 406-414.	1.2	12
54	Satellite-derived UV climatology at Escudero Station, Antarctic Peninsula. Antarctic Science, 2013, 25, 791-803.	0.9	11

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55	Warming events projected to become more frequent and last longer across Antarctica. Scientific Reports, 2021, 11, 19564.	3.3	11
56	Revisiting the problem of the evaluation of the uncertainty associated with a single measurement. Metrologia, 2005, 42, L15-L19.	1.2	10
57	Monte Carlo-based uncertainty analysis of UV array spectroradiometers. Metrologia, 2012, 49, 745-755.	1.2	10
58	Uncertainty evaluation of displacement gradients measured by electronic speckle pattern shearing interferometry (ESPSI). Measurement Science and Technology, 2005, 16, 1315-1321.	2.6	9
59	Changes in the composition of the northern polar upper stratosphere in February 2009 after a sudden stratospheric warming. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,429.	3.3	9
60	Whole-field strain uncertainty evaluation by a Monte Carlo method. Measurement Science and Technology, 2004, 15, 1885-1891.	2.6	8
61	Monitoring the plastic deformation progression of a specimen undergoing tensile deformation by moirÃ© interferometry. Measurement Science and Technology, 2005, 16, 1469-1476.	2.6	8
62	Spectral UV radiance measured at a coastal site: a case study. Photochemical and Photobiological Sciences, 2013, 12, 1193-1201.	2.9	8
63	Detecting the beginning of the shear band formation in uniaxial tensile tests by out-of-plane displacement measurements. Optics and Lasers in Engineering, 2007, 45, 153-159.	3.8	7
64	Necking progression in tensile specimens monitored in real-time by using fringe projection. Optics and Lasers in Engineering, 2010, 48, 1285-1290.	3.8	7
65	Downwelling and upwelling radiance distributions sampled under cloudless conditions in Antarctica. Applied Optics, 2013, 52, 6287.	1.8	7
66	Measuring out-of-plane displacements by electronic speckle-pattern interferometry (ESPI) and whole-field subtractive moirÃ©. Measurement Science and Technology, 2006, 17, 825-830.	2.6	6
67	Evaluating the uncertainties of data rendered by computational models. Metrologia, 2007, 44, L23-L30.	1.2	6
68	Uncertainty analysis of whole-field phase-differences retrieved from ESPI fringe patterns by using the Fourier transform method (FTM). Optics Communications, 2009, 282, 686-691.	2.1	6
69	Using a single-cube beam-splitter as a fringe pattern generator within a structured-light projection system for surface metrology. Optical Engineering, 2017, 56, 044103.	1.0	6
70	Electronic speckle pattern interferometer design to get maximum sensitivity on the measurement of displacement vector fields. Optics Communications, 2006, 262, 8-16.	2.1	5
71	Leaf cuticle topography retrieved by using fringe projection. Optics and Lasers in Engineering, 2012, 50, 231-235.	3.8	5
72	Changes in the UV Lambertian equivalent reflectivity in the Southern Ocean: Influence of sea ice and cloudiness. Remote Sensing of Environment, 2015, 169, 75-92.	11.0	5

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73	Elemental and Mineralogical Composition of the Western Andean Snow (18Â°Sâ€“41Â°S). Scientific Reports, 2019, 9, 8130.	3.3	5
74	Uncertainty evaluation of out-of-plane displacements measured by electronic speckle-pattern interferometry (ESPI). Measurement Science and Technology, 2005, 16, 2365-2374.	2.6	4
75	Reduction of the ringing effect in off-axis digital holography reconstruction from two reconstruction distances based on Talbot effect. Optical Engineering, 2015, 54, 104110.	1.0	4
76	Contaminant emissions as indicators of chemical elements in the snow along a latitudinal gradient in southern Andes. Scientific Reports, 2021, 11, 14530.	3.3	4
77	Evaluation of MODIS-derived estimates of the albedo over the Atacama Desert using ground-based spectral measurements. Scientific Reports, 2021, 11, 19822.	3.3	4
78	Black carbon in the Southern Andean snowpack. Environmental Research Letters, 2022, 17, 044042.	5.2	4
79	Evaluation of Antarctic Ozone Profiles derived from OMPS-LP by using Balloon-borne Ozonesondes. Scientific Reports, 2021, 11, 4288.	3.3	3
80	Non-structural carbohydrate content in cryptogamic Antarctic species after two years of passive warming on the Fildes Peninsula. Czech Polar Reports, 2015, 5, 88-98.	0.6	3
81	Evaluation of the uncertainty associated with a phase-difference map measured only once by the phase-shifting technique. Optics Communications, 2005, 252, 229-238.	2.1	2
82	Real-Time Temperature Monitoring in an Optical Trap. IEEE Photonics Technology Letters, 2022, 34, 121-124.	2.5	2
83	Preface to the Special Issue on Antarctic Meteorology and Climate: Past, Present and Future. Advances in Atmospheric Sciences, 2020, 37, 421-422.	4.3	1
84	Systematic error compensation in electronic speckle pattern shearing interferometry. , 2006, 6341, 334.		0
85	Uncertainty analysis using Monte Carlo method in the measurement of phase by ESPI. AIP Conference Proceedings, 2008, , .	0.4	0
86	Noise Reduction in Off-Axis Digital Holography Reconstruction from Two Reconstruction Distances Based on Talbot Effect. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 75-83.	0.5	0
87	Gatesâ€™ Interferometer as Fringe Projection System for Recovering 3D Shapes. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 153-158.	0.5	0