Jean-Pierre van Helden

List of Publications by Year
in descending order

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Version: 2024-02-01

69 papers	1,049 citations	361413 20 h-index	477307 29 g-index
70 all docs	70 docs citations	70 times ranked	1179 citing authors

#	Article	IF	Citations
1	Ar metastable densities (3<i>P</i>2) in the effluent of a filamentary atmospheric pressure plasma jet with humidified feed gas. Journal of Applied Physics, 2021, 129, .	2.5	7
2	Effects of Plasma-Chemical Composition on AISI 316L Surface Modification by Active Screen Nitrocarburizing Using Gaseous and Solid Carbon Precursors. Metals, 2021, 11, 1411.	2.3	6
3	Influence of Oxygen Admixture on Plasma Nitrocarburizing Process and Monitoring of an Active Screen Plasma Treatment. Applied Sciences (Switzerland), 2021, 11, 9918.	2.5	4
4	Evidence of the dominant production mechanism of ammonia in a hydrogen plasma with parts per million of nitrogen. Applied Physics Letters, 2021, 119, 241601.	3.3	2
5	Influence of the Active Screen Plasma Power during Afterglow Nitrocarburizing on the Surface Modification of AISI 316L. Coatings, 2020, 10, 1112.	2.6	9
6	On the relationship between SiF4 plasma species and sample properties in ultra low-k etching processes. AIP Advances, 2020, 10, .	1.3	1
7	Solid carbon active screen plasma nitrocarburizing of AISI 316L stainless steel in cold wall reactor: influence of plasma conditions. Journal of Materials Research and Technology, 2020, 9, 9195-9205.	5.8	23
8	Spectroscopic study of plasma nitrocarburizing processes with an industrial-scale carbon active screen. Plasma Sources Science and Technology, 2020, 29, 035001.	3.1	12
9	High-Performance GaAs/AlAs Terahertz Quantum-Cascade Lasers For Spectroscopic Applications. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 133-140.	3.1	21
10	Effect of the admixture of N2 to low pressure, low temperature H2-CH4-CO2 microwave plasmas used for large area deposition of nanocrystalline diamond films. Journal Physics D: Applied Physics, 2020, 53, 455204.	2.8	4
11	The spatial distribution of HO2 in an atmospheric pressure plasma jet investigated by cavity ring-down spectroscopy. Plasma Sources Science and Technology, 2020, 29, 085011.	3.1	10
12	The spatial distribution of hydrogen and oxygen atoms in a cold atmospheric pressure plasma jet. Plasma Sources Science and Technology, 2020, 29, 125018.	3.1	14
13	Determining a Line Strength in the Î½₃ Band of the Silyl Radical Using Quantum Cascade Laser Absorption Spectroscopy. Journal of Physical Chemistry A, 2019, 123, 10030-10039.	2.5	3
14	HO2 reaction kinetics in an atmospheric pressure plasma jet determined by cavity ring-down spectroscopy. Plasma Sources Science and Technology, 2018, 27, 095013.	3.1	22
15	Spectroscopic Investigations of Plasma Nitrocarburizing Processes with a Mid-infrared Frequency Comb. , 2018, , .		1
16	On improved understanding of plasma-chemical processes in complex low-temperature plasmas. European Physical Journal D, 2018, 72, 1.	1.3	3
17	RES-Q-Trace: A Mobile CEAS-Based Demonstrator for Multi-Component Trace Gas Detection in the MIR. Sensors, 2018, 18, 2058.	3.8	9
18	Application of Quantum Cascade Laser Absorption Spectroscopy for Correlation Studies in Plasma Etching Processes in the Semiconductor Industry. , 2018, , .		0

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19	On the Chemical Kinetics of HO2 in a Cold Atmospheric Plasma Jet. , 2018, , .		1
20	Direct Mid-Infrared Frequency Comb Spectroscopy of Nitrocarburizing Plasma Processes. , 2018, , .		1
21	Growth processes of nanocrystalline diamond films in microwave cavity and distributed antenna array systems: A comparative study. Diamond and Related Materials, 2017, 71, 53-62.	3.9	12
22	Applying Quantum Cascade Laser Spectroscopy in Plasma Diagnostics. Photonics, 2016, 3, 45.	2.0	18
23	Detection of HO2in an atmospheric pressure plasma jet using optical feedback cavity-enhanced absorption spectroscopy. New Journal of Physics, 2016, 18, 113027.	2.9	27
24	Analysis of the product gas composition in pyrolysis processes of single wood particles using FTIR spectroscopy. , 2016, , .		0
25	Spectroscopic study of low pressure, low temperature H2â€“CH4â€“CO2microwave plasmas used for large area deposition of nanocrystalline diamond films. Part I: on temperature determination and energetic aspects. Plasma Sources Science and Technology, 2016, 25, 065002.	3.1	11
26	Spectroscopic study of low pressure, low temperature H₂â€“CH₄â€“CO₂microwave plasmas used for large area deposition of nanocrystalline diamond films. Part II: on plasma chemical processes. Plasma Sources Science and Technology, 2016, 25, 065003.	3.1	7
27	Sensitive CH_4 detection applying quantum cascade laser based optical feedback cavity-enhanced absorption spectroscopy. Optics Express, 2016, 24, A536.	3.4	29
28	The detection of the highly reactive HO2 radical and of CH4 in atmospheric pressure plasma jets. , 2016, , .		0
29	On Recent Progress in Plasma Diagnostics and Trace Gas Detection Using Infrared Laser Techniques. , 2016, , .		0
30	Applying quantum cascade laser based optical feedback cavity-enhanced absorption spectroscopy in sensing atmospheric methane. , 2016, , .		0
31	Sensitive Spectroscopy of Plasmas in the Mid-Infrared Spectral Range. , 2016, , .		0
32	<i>In Situ</i> Monitoring Capabiities of Quantum Cascade Laser Absorption Spectroscopy in Industrial Plasma Processes. Contributions To Plasma Physics, 2015, 55, 758-773.	1.1	2
33	Controlling the emission profile of an H₂discharge lamp to simulate interstellar radiation fields. Astronomy and Astrophysics, 2015, 584, A56.	5.1	31
34	Optical feedback cavity-enhanced absorption spectroscopy with a 3.24â€‰<i>Î¼</i>m interband cascade laser. Applied Physics Letters, 2015, 106, .	3.3	31
35	Quantum cascade laser based monitoring of CF2 radical concentration as a diagnostic tool of dielectric etching plasma processes. Applied Physics Letters, 2015, 106, .	3.3	12
36	Review on VUV to MIR absorption spectroscopy of atmospheric pressure plasma jets. Plasma Sources Science and Technology, 2015, 24, 054001.	3.1	101

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37	High resolution spectroscopy of silane with an external-cavity quantum cascade laser: Absolute line strengths of the Î½ 3 fundamental band at<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0006.gif" overflow="scroll"><mml:mn>4.6</mml:mn><mml:mspace width="0.25em" /><mml:mi mathvariant="normal">Î¼</mml:mi><mml:mi mathvariant="normal">m</mml:mi></mml:math>. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 151, 287-294.	2.3	21
38	On Recent Progress Applying Quantum Cascade Lasers in Sensing for Environmental and Plasma Diagnostics. , 2015, , .		1
39	Fundamental and Applied Studies of Molecular Plasmas Using Infrared Absorption Techniques. Springer Series on Atomic, Optical, and Plasma Physics, 2014, , 235-266.	0.2	1
40	On Recent Progress Applying Quantum Cascade Lasers in Plasma Diagnostics. , 2014, , .		0
41	Demonstration of a Mid-Infrared Cavity Enhanced Absorption Spectrometer for Breath Acetone Detection. Analytical Chemistry, 2013, 85, 846-850.	6.5	57
42	Sensitive trace gas detection with cavity enhanced absorption spectroscopy using a continuous wave external-cavity quantum cascade laser. Applied Physics Letters, 2013, 103, .	3.3	47
43	Sub-Doppler spectroscopy with an external cavity quantum cascade laser. Applied Physics B: Lasers and Optics, 2013, 112, 159-167.	2.2	4
44	Noise-Immune Cavity-Enhanced Optical Heterodyne Detection of HO₂ in the Near-Infrared Range. Journal of Physical Chemistry A, 2012, 116, 5090-5099.	2.5	14
45	Applications of QCLs in studies of chemical dynamics. , 2012, , .		0
46	Rapid passage signals from a vibrationally excited target molecule: a pump and probe experiment with continuous wave quantum cascade lasers. Optics Letters, 2011, 36, 4725.	3.3	7
47	Chirped quantum cascade laser induced rapid passage signatures in an optically thick gas. Applied Physics B: Lasers and Optics, 2011, 102, 37-42.	2.2	4
48	A 3â€‰Âµm difference frequency laser source for probing hydrocarbon plasmas. Journal Physics D: Applied Physics, 2011, 44, 125202.	2.8	3
49	Quantum cascade laser absorption spectroscopy of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si6.gif" overflow="scroll"><mml:mrow><mml:mn>1</mml:mn><mml:mo>â†</mml:mo><mml:mn>0</mml:mn></mml:mrow></mml:math> band of deuterium bromide at 5 Î¼m. Chemical Physics Letters, 2010, 501, 20-24.	2.6	16
50	Applications of midinfrared quantum cascade lasers to spectroscopy. Optical Engineering, 2010, 49, 111121.	1.0	24
51	Experimental study of surface contributions to molecule formation in a recombining N2/O2plasma. Journal Physics D: Applied Physics, 2010, 43, 115204.	2.8	8
52	Rapid passage signals induced by chirped quantum cascade laser radiation: K state dependent-delay effects in the Î½_2 band of NH_3. Optics Letters, 2010, 35, 2750.	3.3	5
53	Direct and wavelength modulation spectroscopy using a cw external cavity quantum cascade laser. Applied Physics Letters, 2009, 94, .	3.3	58
54	Rapid passage effects in nitrous oxide induced by a chirped external cavity quantum cascade laser. Applied Physics Letters, 2009, 94, .	3.3	14

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55	Resemblance in gas composition of Arâ€“N₂â€“O₂plasmas and Arâ€“NO plasmas. Plasma Sources Science and Technology, 2009, 18, 025020.	3.1	12
56	Cavity enhanced absorption spectroscopy measurements ofÂpressure-induced broadening and shift coefficients inÂtheÂÏ… 1+Ï… 3 combination band of ammonia. Applied Physics B: Lasers and Optics, 2009, 94, 327-336.	2.2	9
57	Wavelength modulation and cavity enhanced absorption spectroscopy using âˆ¼1.9ÂÎ¼m radiation produced by difference frequency generation with a MgO doped PPLN crystal. Applied Physics B: Lasers and Optics, 2009, 97, 715-722.	2.2	6
58	Characterization of an external cavity diode laser based ring cavity NICE-OHMS system. Optics Express, 2009, 17, 9834.	3.4	23
59	Time-Resolved Detection of the CF₃ Photofragment Using Chirped QCL Radiation. Journal of Physical Chemistry A, 2008, 112, 9751-9757.	2.5	18
60	Application of quantum cascade lasers in studies of low-pressure plasmas: Characterization of rapid passage effects on density and temperature measurements. Applied Physics Letters, 2008, 92, 081506.	3.3	27
61	Detailed study of the plasma-activated catalytic generation of ammonia in N2-H2 plasmas. Journal of Applied Physics, 2007, 101, 043305.	2.5	69
62	Production Mechanisms of NH and NH₂ Radicals in N₂âˆ’H₂ Plasmas. Journal of Physical Chemistry A, 2007, 111, 11460-11472.	2.5	39
63	N, NH, and NH2 radical densities in a remote Arâ€“NH3â€“SiH4 plasma and their role in silicon nitride deposition. Journal of Applied Physics, 2006, 100, 093303.	2.5	22
64	Downstream ion and radical densities in an Arâ€“NH3plasma generated by the expanding thermal plasma technique. Plasma Sources Science and Technology, 2006, 15, 546-555.	3.1	14
65	Molecule formation in N and O containing plasmas. IEEE Transactions on Plasma Science, 2005, 33, 390-391.	1.3	9
66	Density and production of NH and NH2 in an Arâ€“NH3 expanding plasma jet. Journal of Applied Physics, 2005, 98, 093301.	2.5	30
67	Phase-shift cavity ring-down spectroscopy to determine absolute line intensities. Chemical Physics Letters, 2004, 400, 320-325.	2.6	26
68	Bulk and surface defects in a-Si:H films studied by means of the cavity ring down absorption technique. Journal of Non-Crystalline Solids, 2002, 299-302, 610-614.	3.1	15
69	Cavity Enhanced Techniques Using Continuous Wave Lasers. , 0, , 27-56.		9