Jean-Pierre van Helden

List of Publications by Year
in descending order

69	1,049	361413	477307
papers	citations	20 h-index	29 g-index

70	70	70	1179
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Review on VUV to MIR absorption spectroscopy of atmospheric pressure plasma jets. Plasma Sources Science and Technology, 2015, 24, 054001.	3.1	101
2	Detailed study of the plasma-activated catalytic generation of ammonia in N2-H2 plasmas. Journal of Applied Physics, 2007, 101, 043305.	2.5	69
3	Direct and wavelength modulation spectroscopy using a cw external cavity quantum cascade laser. Applied Physics Letters, 2009, 94, .	3.3	58
4	Demonstration of a Mid-Infrared Cavity Enhanced Absorption Spectrometer for Breath Acetone Detection. Analytical Chemistry, 2013, 85, 846-850.	6.5	57
5	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
6	Production Mechanisms of NH and NH₂ Radicals in N₂â^'H₂ Plasmas. Journal of Physical Chemistry A, 2007, 111, 11460-11472.	2.5	39
7	Controlling the emission profile of an H₂discharge lamp to simulate interstellar radiation fields. Astronomy and Astrophysics, 2015, 584, A56.	5.1	31
8	Optical feedback cavity-enhanced absorption spectroscopy with a 3.24â€‰Î¼m interband cascade laser. Applied Physics Letters, 2015, 106, .	3.3	31
9	Density and production of NH and NH2 in an Arâ€“NH3 expanding plasma jet. Journal of Applied Physics, 2005, 98, 093301.	2.5	30
10	Sensitive CH_4 detection applying quantum cascade laser based optical feedback cavity-enhanced absorption spectroscopy. Optics Express, 2016, 24, A536.	3.4	29
11	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
12	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
13	Phase-shift cavity ring-down spectroscopy to determine absolute line intensities. Chemical Physics Letters, 2004, 400, 320-325.	2.6	26
14	Applications of midinfrared quantum cascade lasers to spectroscopy. Optical Engineering, 2010, 49, 111121.	1.0	24
15	Characterization of an external cavity diode laser based ring cavity NICE-OHMS system. Optics Express, 2009, 17, 9834.	3.4	23
16	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
17	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
18	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

#	Article	IF	Citations
19	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
20	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
21	Time-Resolved Detection of the CF₃ Photofragment Using Chirped QCL Radiation. Journal of Physical Chemistry A, 2008, 112, 9751-9757.	2.5	18
22	Applying Quantum Cascade Laser Spectroscopy in Plasma Diagnostics. Photonics, 2016, 3, 45.	2.0	18
23	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
24	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
25	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
26	Rapid passage effects in nitrous oxide induced by a chirped external cavity quantum cascade laser. Applied Physics Letters, 2009, 94, .	3.3	14
27	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
28	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
29	Resemblance in gas composition of Arâ€“N₂â€“O₂plasmas and Arâ€“NO plasmas. Plasma Sources Science and Technology, 2009, 18, 025020.	3.1	12
30	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
31	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
32	Spectroscopic study of plasma nitrocarburizing processes with an industrial-scale carbon active screen. Plasma Sources Science and Technology, 2020, 29, 035001.	3.1	12
33	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
34	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
35	Molecule formation in N and O containing plasmas. IEEE Transactions on Plasma Science, 2005, 33, 390-391.	1.3	9
36	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

#	Article	IF	Citations
37	Cavity Enhanced Techniques Using Continuous Wave Lasers. , 0, , 27-56.		9
38	RES-Q-Trace: A Mobile CEAS-Based Demonstrator for Multi-Component Trace Gas Detection in the MIR. Sensors, 2018, 18, 2058.	3.8	9
39	Influence of the Active Screen Plasma Power during Afterglow Nitrocarburizing on the Surface Modification of AISI 316L. Coatings, 2020, 10, 1112.	2.6	9
40	Experimental study of surface contributions to molecule formation in a recombining N2/O2plasma. Journal Physics D: Applied Physics, 2010, 43, 115204.	2.8	8
41	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
42	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
43	Ar metastable densities (3P2) in the effluent of a filamentary atmospheric pressure plasma jet with humidified feed gas. Journal of Applied Physics, 2021, 129, .	2.5	7
44	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
45	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
46	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
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	Sub-Doppler spectroscopy with an external cavity quantum cascade laser. Applied Physics B: Lasers and Optics, 2013, 112, 159-167.	2.2	4
49	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
50	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
51	A 3â€‰Âµm difference frequency laser source for probing hydrocarbon plasmas. Journal Physics D: Applied Physics, 2011, 44, 125202.	2.8	3
52	On improved understanding of plasma-chemical processes in complex low-temperature plasmas. European Physical Journal D, 2018, 72, 1.	1.3	3
53	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
54	In Situ Monitoring Capabiities of Quantum Cascade Laser Absorption Spectroscopy in Industrial Plasma Processes. Contributions To Plasma Physics, 2015, 55, 758-773.	1.1	2

#	Article	IF	Citations
55	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
56	Spectroscopic Investigations of Plasma Nitrocarburizing Processes with a Mid-infrared Frequency Comb. , 2018, , .		1
57	On the relationship between SiF4 plasma species and sample properties in ultra low-k etching processes. AIP Advances, 2020, 10, .	1.3	1
58	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
59	On Recent Progress Applying Quantum Cascade Lasers in Sensing for Environmental and Plasma Diagnostics. , 2015, , .		1
60	On the Chemical Kinetics of HO2 in a Cold Atmospheric Plasma Jet. , 2018, , .		1
61	Direct Mid-Infrared Frequency Comb Spectroscopy of Nitrocarburizing Plasma Processes. , 2018, , .		1
62	Analysis of the product gas composition in pyrolysis processes of single wood particles using FTIR spectroscopy. , 2016, , .		0
63	Applications of QCLs in studies of chemical dynamics. , 2012, , .		0
64	On Recent Progress Applying Quantum Cascade Lasers in Plasma Diagnostics. , 2014, , .		0
65	The detection of the highly reactive HO2 radical and of CH4 in atmospheric pressure plasma jets. , 2016, , .		0
66	On Recent Progress in Plasma Diagnostics and Trace Gas Detection Using Infrared Laser Techniques. , 2016, , .		0
67	Applying quantum cascade laser based optical feedback cavity-enhanced absorption spectroscopy in sensing atmospheric methane. , 2016, , .		0
68	Sensitive Spectroscopy of Plasmas in the Mid-Infrared Spectral Range. , 2016, , .		0
69	Application of Quantum Cascade Laser Absorption Spectroscopy for Correlation Studies in Plasma Etching Processes in the Semiconductor Industry. , 2018, , .		0