Pascale Desgroux

List of Publications by Year
in descending order

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80 papers	2,812 citations	159585 30 h-index	189892 50 g-index
84 all docs	84 docs citations	84 times ranked	1558 citing authors

#	Article	IF	Citations
1	Study of the formation of soot and its precursors in flames using optical diagnostics. Proceedings of the Combustion Institute, 2013, 34, 1713-1738.	3.9	183
2	A Review of Terminology Used to Describe Soot Formation and Evolution under Combustion and Pyrolytic Conditions. ACS Nano, 2020, 14, 12470-12490.	14.6	122
3	Laser induced fluorescence spectroscopy of aromatic species produced in atmospheric sooting flames using UV and visible excitation wavelengths. Combustion and Flame, 2014, 161, 2479-2491.	5.2	113
4	NO prediction in natural gas flames using GDF-KinÂ®3.0 mechanism NCN and HCN contribution to prompt-NO formation. Fuel, 2006, 85, 896-909.	6.4	107
5	Effect of ethanol addition in gasoline and gasolineâ€"surrogate on soot formation in turbulent spray flames. Fuel, 2010, 89, 3952-3959.	6.4	101
6	Examination of wavelength dependent soot optical properties ofÂdiesel and diesel/rapeseed methyl ester mixture by extinction spectra analysis and LII measurements. Applied Physics B: Lasers and Optics, 2011, 104, 253-271.	2.2	100
7	Experimental and numerical study of the role of NCN in prompt-NO formation in low-pressure CH4â€"O2â€"N2 and C2H2â€"O2â€"N2 flames. Combustion and Flame, 2010, 157, 1929-1941.	5.2	92
8	Modeling of NO formation in low pressure premixed flames. Combustion and Flame, 2016, 163, 557-575.	5.2	87
9	High-sensitivity detection of polycyclic aromatic hydrocarbons adsorbed onto soot particles using laser desorption/laser ionization/time-of-flight mass spectrometry: An approach to studying the soot inception process in low-pressure flames. Combustion and Flame, 2011, 158, 227-239.	5.2	86
10	Two-color laser-induced incandescence and cavity ring-down spectroscopy for sensitive and quantitative imaging of soot and PAHs in flames. Applied Physics B: Lasers and Optics, 2004, 78, 485-492.	2.2	79
11	Comparative study of the soot formation process in a â€œnucleationâ€• and a â€œsootingâ€• low pressure premixed methane flame. Combustion and Flame, 2017, 184, 153-166.	5.2	75
12	Instantaneous temperature measurement in a rapid-compression machine using laser Rayleigh scattering. Applied Physics B: Lasers and Optics, 1995, 61, 69-72.	2.2	70
13	Probing the smallest soot particles in low-sooting premixed flames using laser-induced incandescence. Proceedings of the Combustion Institute, 2015, 35, 1843-1850.	3.9	70
14	Experimental and modeling study of the oxidation of natural gas in a premixed flame, shock tube, and jet-stirred reactor. Combustion and Flame, 2004, 137, 109-128.	5.2	69
15	Determination of the ratio of soot refractive index function E(m) at the two wavelengths 532 and 1064Ânm by laser induced incandescence. Applied Physics B: Lasers and Optics, 2007, 89, 417-427.	2.2	63
16	Laser induced incandescence determination ofÂtheÂratio ofÂtheÂsoot absorption functions at 532Ânm and 1064Ânm inÂtheÂnucleation zone of a low pressure premixed sooting flame. Applied Physics B: Lasers and Optics, 2011, 104, 297-305.	2.2	56
17	Ignition of methane- and n-butane-containing mixtures at high pressures by pulsed nanosecond discharge. Combustion and Flame, 2015, 162, 1336-1349.	5.2	56
18	Investigation of the size of the incandescent incipient soot particles in premixed sooting and nucleation flames of <i>n</i>-butane using LII, HIM, and 1 nm-SMPS. Aerosol Science and Technology, 2017, 51, 916-935.	3.1	56

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19	Soot particles inception and PAH condensation modelling applied in a soot model utilizing a sectional method. Combustion and Flame, 2018, 189, 190-206.	5.2	55
20	Soot volume fraction measurement in low-pressure methane flames by combining laser-induced incandescence and cavity ring-down spectroscopy: Effect of pressure on soot formation. Combustion and Flame, 2008, 155, 289-301.	5.2	54
21	Absolute CH concentration measurements by cavity ring-down spectroscopy in an atmospheric diffusion flame. Chemical Physics Letters, 1999, 305, 334-342.	2.6	51
22	Correction of LIF temperature measurements for laser absorption and fluorescence trapping in a flame. Applied Physics B: Lasers and Optics, 1995, 61, 401-407.	2.2	45
23	Progress toward the Quantitative Analysis of PAHs Adsorbed on Soot by Laser Desorption/Laser Ionization/Time-of-Flight Mass Spectrometry. Environmental Science & Technology, 2015, 49, 10510-10520.	10.0	41
24	Detailed analysis of low-pressure premixed flames of CH4 + O2 + N2: a study of prompt-NO. Combustion and Flame, 1999, 117, 291-306.	5.2	39
25	Improvement of two-photon laser induced fluorescence measurements of H- and O-atoms in premixed methane/air flames. Applied Physics B: Lasers and Optics, 1997, 65, 639-646.	2.2	35
26	Experimental study of the E(m,Âî»)/E(m,Â1064) ratio as a function of wavelength, fuel type, height above the burner and temperature. Applied Physics B: Lasers and Optics, 2014, 116, 313-323.	2.2	33
27	Unveiling trends in soot nucleation and growth: When secondary ion mass spectrometry meets statistical analysis. Carbon, 2019, 144, 815-830.	10.3	33
28	Evidence on the formation of dimers of polycyclic aromatic hydrocarbons in a laminar diffusion flame. Communications Chemistry, 2020, 3, .	4.5	33
29	Measurements and modeling of laser-induced incandescence of soot at different heights in a flat premixed flame. Applied Physics B: Lasers and Optics, 2015, 118, 449-469.	2.2	31
30	Experimental and numerical study on rich methane/hydrogen/air laminar premixed flames at atmospheric pressure: Effect of hydrogen addition to fuel on soot gaseous precursors. International Journal of Hydrogen Energy, 2016, 41, 6929-6942.	7.1	31
31	Experimental and theoretical comparison of spatially resolved laser-induced incandescence (LII) signals of soot in backward and right-angle configuration. Applied Physics B: Lasers and Optics, 2006, 83, 423-433.	2.2	30
32	Wavelength-selective vibrationally excited photodesorption with tunable IR sources. Journal of Physics Condensed Matter, 2006, 18, S1357-S1387.	1.8	28
33	Modeling of PAHs in low pressure sooting premixed methane flame. Energy, 2012, 43, 73-84.	8.8	28
34	Quantitative features and sensitivity of cavity ring-down measurements of species concentrations in flames. Combustion and Flame, 2001, 124, 656-667.	5.2	27
35	Laser-induced incandescence technique to identify soot nucleation and very small particles in low-pressure methane flames. Applied Physics B: Lasers and Optics, 2013, 112, 369-379.	2.2	27
36	IR laser resonant desorption of polycyclic aromatic hydrocarbons. Chemical Physics Letters, 2006, 423, 407-412.	2.6	26

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37	Quantitative measurement of naphthalene in low-pressure flames by jet-cooled laser-induced fluorescence. Applied Physics B: Lasers and Optics, 2010, 100, 933-943.	2.2	26
38	The response of buoyant laminar diffusion flames to low-frequency forcing. Combustion and Flame, 2007, 151, 676-684.	5.2	23
39	Soot volume fraction measurements in aero-engine exhausts using extinction-calibrated backward laser-induced incandescence. Applied Physics B: Lasers and Optics, 2009, 95, 825-838.	2.2	23
40	Implementation of a new spectroscopic method to quantify aromatic species involved in the formation of soot particles in flames. Applied Physics B: Lasers and Optics, 2008, 91, 387-395.	2.2	22
41	Pyrene Measurements in Sooting Low Pressure Methane Flames by Jet-Cooled Laser-Induced Fluorescence. Journal of Physical Chemistry A, 2011, 115, 14153-14162.	2.5	22
42	Prompt-NO formation in methane/oxygen/nitrogen flames seeded with oxygenated volatile organic compounds: Methyl ethyl ketone or ethyl acetate. Combustion and Flame, 2008, 153, 186-201.	5.2	21
43	NO reburning study based on species quantification obtained by coupling LIF and cavity ring-down spectroscopy. Faraday Discussions, 2001, 119, 305-319.	3.2	20
44	Measurements and modelling of HCN and CN species profiles in laminar CH 4 /O 2 /N 2 low pressure flames using LIF/CRDS techniques. Proceedings of the Combustion Institute, 2015, 35, 745-752.	3.9	20
45	Quantitative measurement of volume fraction profiles of soot of different maturities in premixed flames by extinction-calibrated laser-induced incandescence. Applied Physics B: Lasers and Optics, 2019, 125, 1.	2.2	20
46	2D imaging of laser wing effects and of soot sublimation in laser-induced incandescence measurements. Applied Physics B: Lasers and Optics, 2005, 81, 181-186.	2.2	18
47	Influence of the photoionization process on the fragmentation of laser desorbed polycyclic aromatic hydrocarbons. Applied Surface Science, 2007, 253, 6435-6441.	6.1	18
48	Reinvestigation of the spectroscopy of the transition of the NCN radical at high temperature: Application to quantitative NCN measurement in flames. Combustion and Flame, 2013, 160, 755-765.	5.2	18
49	NO formation in high pressure premixed flames: Experimental results and validation of a new revised reaction mechanism. Fuel, 2020, 260, 116331.	6.4	18
50	Isomer discrimination of PAHs formed in sooting flames by jet-cooled laser-induced fluorescence: application to the measurement of pyrene and fluoranthene. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	17
51	A comprehensive protocol for chemical analysis of flame combustion emissions by secondary ion mass spectrometry. Rapid Communications in Mass Spectrometry, 2018, 32, 1015-1025.	1.5	17
52	Cloud condensation nuclei from the activation with ozone of soot particles sampled from a kerosene diffusion flame. Aerosol Science and Technology, 2018, 52, 814-827.	3.1	17
53	Quantification of stable minor species in confined flames by cavity ring-down spectroscopy: application to NO. Applied Physics B: Lasers and Optics, 2002, 74, 427-434.	2.2	16
54	Quantitative measurements of the CH radical in sooting diffusion flames at atmospheric pressure. Applied Physics B: Lasers and Optics, 2003, 76, 597-602.	2.2	15

#	ARTICLE	IF	CITATIONS
55	Measurements and modelling of nitrogen species in CH4/O2/N2 flames doped with NO, NH3, or NH3+NO. Combustion and Flame, 2017, 176, 48-59.	5.2	15
56	IR wavelength-selective laser desorption via OH and CH stretching modes. Applied Surface Science, 2006, 253, 1090-1094.	6.1	14
57	Diode laser atomic fluorescence temperature measurements inÂlow-pressure flames. Applied Physics B: Lasers and Optics, 2008, 93, 907-914.	2.2	14
58	The story of NCN as a key species in prompt-NO formation. Progress in Energy and Combustion Science, 2021, 87, 100940.	31.2	14
59	Time-resolved electric field measurements in nanosecond surface dielectric discharge. Comparison of different polarities. Ignition of combustible mixtures by surface discharge in a rapid compression machine.. , 2013, , .		13
60	The accuracy and precision of multi-line NO-LIF thermometry in a wide range of pressures and temperatures. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 255, 107257.	2.3	13
61	Experimental and numerical investigation of atmospheric laminar premixed n-butane flames in sooting conditions. Fuel, 2018, 211, 548-565.	6.4	12
62	Measurements of OH concentration in flames at high pressure by two-optical path laser-induced fluorescence. Applied Optics, 1992, 31, 2831.	2.1	11
63	NCO Quantitative Measurement in Premixed Low Pressure Flames by Combining LIF and CRDS Techniques. Journal of Physical Chemistry A, 2011, 115, 5346-5353.	2.5	10
64	<i>In Situ</i> Laser-Induced Fluorescence and <i>Ex Situ</i> Cavity Ring-Down Spectroscopy Applied to NO Measurement in Flames: Microprobe Perturbation and Absolute Quantification. Energy & Fuels, 2021, 35, 7107-7120.	5.1	10
65	Wavelength-selective laser desorption of doped ice surfaces. Surface Science, 2005, 593, 221-228.	1.9	8
66	Influence of the dry aerosol particle size distribution and morphology on the cloud condensation nuclei activation. An experimental and theoretical investigation. Atmospheric Chemistry and Physics, 2020, 20, 4209-4225.	4.9	8
67	Hydrogen as a fuel additive in laminar premixed methane flames: Impact on the nucleation and growth of soot particles. Fuel, 2022, 315, 123125.	6.4	8
68	Coupling of gas chromatography and molecular beam/mass spectrometry analytical techniques: Application to flame structure study. Review of Scientific Instruments, 1999, 70, 2828-2835.	1.3	6
69	Quantitative NH measurements by using laser-based diagnostics in low-pressure flames. Proceedings of the Combustion Institute, 2019, 37, 1313-1320.	3.9	6
70	Experimental and modeling study of the high-temperature combustion chemistry of tetrahydrofurfuryl alcohol. Proceedings of the Combustion Institute, 2021, 38, 631-640.	3.9	6
71	Quantitative measurement of atomic hydrogen in low-pressure methane flames using two-photon LIF calibrated by krypton. Combustion and Flame, 2021, 224, 248-259.	5.2	6
72	Disturbance of laser-induced-fluorescence measurements of NO in methaneâ€“air flames containing chlorinated species by photochemical effects induced by 225-nm-laser excitation. Applied Optics, 1998, 37, 4951.	2.1	5

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73	Cavity Ring-Down Spectroscopy for Combustion Studies. , 0, , 273-311.		5
74	Direct quantification of O-atom in low-pressure methane flames by using two-photon LIF. Proceedings of the Combustion Institute, 2021, 38, 1753-1760.	3.9	5
75	Exploring the Flame Chemistry of C₅ Tetrahydrofuranic Biofuels: Tetrahydrofurfuryl Alcohol and 2-Methyltetrahydrofuran. Energy & Fuels, 2021, 35, 18699-18715.	5.1	5
76	Hydrophilic properties of soot particles exposed to OH radicals: A possible new mechanism involved in the contrail formation. Proceedings of the Combustion Institute, 2021, 38, 6441-6450.	3.9	3
77	Experimental and numerical investigation of the transition from non sooting to sooting premixed n-butane flames, encompassing the nucleation flame conditions. Combustion and Flame, 2022, , 112172.	5.2	3
78	Quantitative measurement of CN radical inÂaÂlow-pressure methane/air flame by cavity ring-downÂspectroscopy. Comptes Rendus Physique, 2001, 2, 965-972.	0.1	2
79	Energy balance in surface nanosecond dielectric barrier discharge. Plasma-assisted ignition of heavy hydrocarbons at high pressures. , 2015, , .		2
80	Laser Diagnostics for Selective and Quantitative Measurement of PAHs and Soot. Green Energy and Technology, 2013, , 303-331.	0.6	2