Sebastian Verhelst

List of Publications by Year
in descending order

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134 papers	6,259 citations	101543 36 h-index	85541 71 g-index
135 all docs	135 docs citations	135 times ranked	3845 citing authors

#	Article	IF	Citations
1	Hydrogen-fueled internal combustion engines. Progress in Energy and Combustion Science, 2009, 35, 490-527.	31.2	860
2	Methanol as a fuel for internal combustion engines. Progress in Energy and Combustion Science, 2019, 70, 43-88.	31.2	589
3	Recent progress in the use of hydrogen as a fuel for internal combustion engines. International Journal of Hydrogen Energy, 2014, 39, 1071-1085.	7.1	326
4	Laminar burning velocity of gasoline and the gasoline surrogate components iso-octane, n-heptane and toluene. Fuel, 2013, 112, 355-365.	6.4	218
5	Laminar burning velocities of lean hydrogenâ€“air mixtures at pressures up to 1.0 MPa. Combustion and Flame, 2007, 149, 162-172.	5.2	213
6	Combustion and emissions characteristics of a dual fuel engine operated on alternative gaseous fuels. Fuel, 2013, 109, 669-678.	6.4	192
7	The Chemical Route to a Carbon Dioxide Neutral World. ChemSusChem, 2017, 10, 1039-1055.	6.8	174
8	The potential of methanol as a fuel for flex-fuel and dedicated spark-ignition engines. Applied Energy, 2013, 102, 140-149.	10.1	153
9	Laminar and unstable burning velocities and Markstein lengths of hydrogenâ€“air mixtures at engine-like conditions. Proceedings of the Combustion Institute, 2005, 30, 209-216.	3.9	140
10	Prediction of the cetane number of biodiesel using artificial neural networks and multiple linear regression. Energy Conversion and Management, 2013, 65, 255-261.	9.2	125
11	Multi-zone thermodynamic modelling of spark-ignition engine combustion â€“ An overview. Energy Conversion and Management, 2009, 50, 1326-1335.	9.2	124
12	Increasing the power output of hydrogen internal combustion engines by means of supercharging and exhaust gas recirculation. International Journal of Hydrogen Energy, 2009, 34, 4406-4412.	7.1	121
13	Laminar burning velocities of primary reference fuels and simple alcohols. Fuel, 2014, 115, 32-40.	6.4	116
14	Assessment of diesel engine performance when fueled with biodiesel from algae and microalgae: An overview. Renewable and Sustainable Energy Reviews, 2017, 69, 833-842.	16.4	109
15	Experimental study of NO reduction on a medium speed heavy duty diesel engine by the application of EGR (exhaust gas recirculation) and Miller timing. Energy, 2014, 76, 614-621.	8.8	106
16	Comparison of the renewable transportation fuels, hydrogen and methanol formed from hydrogen, with gasoline â€“ Engine efficiency study. International Journal of Hydrogen Energy, 2012, 37, 9914-9924.	7.1	103
17	Analysis of vehicle emission measurements on the new WLTC, the NEDC and the CADC. Transportation Research, Part D: Transport and Environment, 2014, 32, 70-85.	6.8	98
18	Hydrogen engine-specific properties. International Journal of Hydrogen Energy, 2001, 26, 987-990.	7.1	97

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19	A quasi-dimensional model for the power cycle of a hydrogen-fuelled ICE. International Journal of Hydrogen Energy, 2007, 32, 3545-3554.	7.1	87
20	A Critical Review of Experimental Research on Hydrogen Fueled SI Engines. , 0, , .		73
21	Efficiency comparison between hydrogen and gasoline, on a bi-fuel hydrogen/gasoline engine. International Journal of Hydrogen Energy, 2009, 34, 2504-2510.	7.1	70
22	Recommendations for the new WLTP cycle based on an analysis of vehicle emission measurements on NEDC and CADC. Energy Policy, 2012, 49, 234-242.	8.8	70
23	Temperature Dependence of the Laminar Burning Velocity of Methanol Flames. Energy & Fuels, 2012, 26, 1557-1564.	5.1	66
24	Local heat flux measurements in a hydrogen and methane spark ignition engine with a thermopile sensor. International Journal of Hydrogen Energy, 2009, 34, 9857-9868.	7.1	60
25	Emulsification of animal fats and vegetable oils for their use as a diesel engine fuel: An overview. Renewable and Sustainable Energy Reviews, 2015, 47, 623-633.	16.4	58
26	CFD modeling and experimental study of combustion and nitric oxide emissions in hydrogen-fueled spark-ignition engine operating in a very wide range of EGR rates. International Journal of Hydrogen Energy, 2012, 37, 10917-10934.	7.1	57
27	Aspects concerning the optimisation of a hydrogen fueled engine. International Journal of Hydrogen Energy, 2001, 26, 981-985.	7.1	56
28	A correlation for the laminar burning velocity for use in hydrogen spark ignition engine simulation. International Journal of Hydrogen Energy, 2011, 36, 957-974.	7.1	54
29	On the applicability of empirical heat transfer models for hydrogen combustion engines. International Journal of Hydrogen Energy, 2011, 36, 975-984.	7.1	53
30	Impact of variable valve timing on power, emissions and backfire of a bi-fuel hydrogen/gasoline engine. International Journal of Hydrogen Energy, 2010, 35, 4399-4408.	7.1	52
31	Ignition delay in a palm oil and rapeseed oil biodiesel fuelled engine and predictive correlations for the ignition delay period. Fuel, 2011, 90, 766-772.	6.4	51
32	Thermal and kinetic evaluation of biodiesel derived from soybean oil and higuereta oil. Journal of Thermal Analysis and Calorimetry, 2009, 96, 897-901.	3.6	48
33	Performance and emissions of iso-stoichiometric ternary GEM blends on a production SI engine. Fuel, 2014, 117, 286-293.	6.4	46
34	Exploring the potential of reformed-exhaust gas recirculation (R-EGR) for increased efficiency of methanol fueled SI engines. Fuel, 2019, 236, 778-791.	6.4	46
35	Development and validation of a quasi-dimensional model for methanol and ethanol fueled SI engines. Applied Energy, 2014, 132, 412-425.	10.1	45
36	A combined experimental and numerical study of thermal processes, performance and nitric oxide emissions in a hydrogen-fueled spark-ignition engine. International Journal of Hydrogen Energy, 2011, 36, 5163-5180.	7.1	44

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37	Alternative Fuels for Spark-Ignition Engines: Mixing Rules for the Laminar Burning Velocity of Gasolineâ€“Alcohol Blends. Energy & Fuels, 2012, 26, 4721-4727.	5.1	43
38	Experimental Investigation of a DISI Production Engine Fuelled with Methanol, Ethanol, Butanol and ISO-Stoichiometric Alcohol Blends. , 0, , .		42
39	A laminar burning velocity and flame thickness correlation for ethanolâ€“air mixtures valid at spark-ignition engine conditions. Fuel, 2012, 102, 460-469.	6.4	41
40	Investigation of the influence of engine settings on the heat flux in a hydrogen- and methane-fueled spark ignition engine. Applied Thermal Engineering, 2011, 31, 1220-1228.	6.0	38
41	Conversion of by-products from the vegetable oil industry into biodiesel and its use in internal combustion engines: a review. Brazilian Journal of Chemical Engineering, 2014, 31, 287-301.	1.3	38
42	Alcohol fuels for spark-ignition engines: Performance, efficiency and emission effects at mid to high blend rates for binary mixtures and pure components. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 36-56.	1.9	37
43	A comprehensive overview of hydrogen engine design features. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2007, 221, 911-920.	1.9	34
44	Experimental investigation of emulsified fuels produced with a micro-channel emulsifier: Puffing and micro-explosion analyses. Fuel, 2018, 219, 320-330.	6.4	34
45	The effects of dilution with nitrogen and steam on the laminar burning velocity of methanol at room and elevated temperatures. Fuel, 2013, 105, 732-738.	6.4	33
46	Experimental investigation concerning the influence of fuel type and properties on the injection and atomization of liquid biofuels inÂanÂoptical combustion chamber. Biomass and Bioenergy, 2013, 57, 215-228.	5.7	32
47	Setting a best practice for determining the EGR rate in hydrogen internal combustion engines. International Journal of Hydrogen Energy, 2013, 38, 2490-2503.	7.1	32
48	Experimental Study of a Hydrogen-Fueled Engine. Journal of Engineering for Gas Turbines and Power, 2001, 123, 211-216.	1.1	31
49	Laminar Burning Velocity Correlations for Methanol-Air and Ethanol-Air Mixtures Valid at SI Engine Conditions. , 2011, , .		31
50	Influence of the Injection Parameters on the Efficiency and Power Output of a Hydrogen Fueled Engine. Journal of Engineering for Gas Turbines and Power, 2003, 125, 444-449.	1.1	29
51	Effects of Supercharging, EGR and Variable Valve Timing on Power and Emissions of Hydrogen Internal Combustion Engines. SAE International Journal of Engines, 0, 1, 647-656.	0.4	29
52	Heat transfer in premixed spark ignition engines part I: Identification of the factors influencing heat transfer. Energy, 2016, 116, 380-391.	8.8	29
53	Evaluation of empirical heat transfer models for HCCI combustion in a CFR engine. Applied Energy, 2017, 205, 1141-1150.	10.1	29
54	A quasi-dimensional model for SI engines fueled with gasolineâ€“alcohol blends: Knock modeling. Fuel, 2015, 140, 217-226.	6.4	28

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55	Failure of fuel injectors in a medium speed diesel engine operating on bio-oil. Biomass and Bioenergy, 2012, 40, 27-35.	5.7	27
56	Heat Loss Comparison Between Hydrogen, Methane, Gasoline and Methanol in a Spark-Ignition Internal Combustion Engine. Energy Procedia, 2012, 29, 138-146.	1.8	23
57	Electricity Powering Combustion: Hydrogen Engines. Proceedings of the IEEE, 2012, 100, 427-439.	21.3	23
58	The turbulent burning velocity of methanolâ€“air mixtures. Fuel, 2014, 130, 76-91.	6.4	23
59	Retrofitting a high-speed marine engine to dual-fuel methanol-diesel operation: A comparison of multiple and single point methanol port injection. Fuel Communications, 2021, 7, 100010.	5.2	22
60	Experimental Evaluation of Lean-burn and EGR as Load Control Strategies for Methanol Engines. , 0, , .		21
61	Update on the Progress of Hydrogen-Fueled Internal Combustion Engines. , 2013, , 381-400.		21
62	Heat transfer in premixed spark ignition engines part II: Systematic analysis of the heat transfer phenomena. Energy, 2016, 116, 851-860.	8.8	21
63	Characterization of Jatropha curcas oils and their derived fatty acid ethyl esters obtained from two different plantations in Cuba. Biomass and Bioenergy, 2011, 35, 4092-4098.	5.7	20
64	Prediction of Cetane Number and Ignition Delay of Biodiesel Using Artificial Neural Networks. Energy Procedia, 2014, 57, 877-885.	1.8	20
65	Downsizing Potential of Methanol Fueled DISIÂEngine with Variable Valve Timing and Boost Control. , 0, , .		20
66	Performance of methanol kinetic mechanisms at oxy-fuel conditions. Combustion and Flame, 2015, 162, 1719-1728.	5.2	19
67	Development and Validation of a Knock Prediction Model for Methanol-Fuelled SI Engines. , 0, , .		18
68	Combustion Studies for PFI Hydrogen IC Engines. , 2007, , .		17
69	Water management in an alkaline fuel cell. International Journal of Hydrogen Energy, 2011, 36, 11011-11024.	7.1	15
70	Evaluation of empirical heat transfer models using TFG heat flux sensors. Applied Thermal Engineering, 2017, 118, 561-569.	6.0	15
71	Multifuel CHP HCCI Engine towards Flexible Power-to-fuel: Numerical Study of Operating Range. Energy Procedia, 2017, 105, 1532-1538.	1.8	15
72	A novel technique for detailed and time-efficient combustion modeling of fumigated dual-fuel internal combustion engines. Applied Thermal Engineering, 2020, 174, 115224.	6.0	15

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73	Influence of Injection Strategies on Engine Efficiency for a Methanol PPC Engine. SAE International Journal of Advances and Current Practices in Mobility, 0, 2, 653-671.	2.0	15
74	High-Speed Characterization of ECN Spray A Using Various Diagnostic Techniques. SAE International Journal of Engines, 0, 6, 1238-1248.	0.4	14
75	Computational Study of the Laminar Reaction Front Properties of Diluted Methanolâ€“Air Flames Enriched by the Fuel Reforming Product. Energy & Fuels, 2017, 31, 9991-10002.	5.1	14
76	Impact of Mileage on Particle Number Emission Factors for EURO5 and EURO6 Diesel Passenger Cars. Atmospheric Environment, 2021, 244, 117975.	4.1	14
77	A quasi-dimensional combustion model for spark ignition engines fueled with gasolineâ€“methanol blends. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 57-74.	1.9	14
78	Performance and Emissions of a SI Engine using Methanol-Water Blends. , 0, , .		13
79	Effects of molar expansion ratio of fuels on engine efficiency. Fuel, 2020, 263, 116743.	6.4	13
80	A Laminar Burning Velocity Correlation for Hydrogen/Air Mixtures Valid at Spark-Ignition Engine Conditions. , 2003, , 35.		12
81	Future vehicles will be driven by electricity, but not as you think [Point of View]. Proceedings of the IEEE, 2014, 102, 1399-1403.	21.3	12
82	Combustion Characterization of Methanol in a Lean Burn Direct Injection Spark Ignition (DISI) Engine. , 0, , .		12
83	Drive Cycle Analysis of Load Control Strategies for Methanol Fuelled ICE Vehicle. , 2012, , .		11
84	Thermal and electrical performance of an alkaline fuel cell. Applied Thermal Engineering, 2012, 40, 227-235.	6.0	11
85	Quantification and Analysis of the Charge Cooling Effect of Methanol in a Compression Ignition Engine Utilizing PPC Strategy. , 2018, , .		11
86	Evaluation of wall heat flux calculation methods for CFD simulations of an internal combustion engine under both motored and HCCI operation. Applied Energy, 2018, 232, 451-461.	10.1	11
87	Applying Design of Experiments to Determine the Effect of Gas Properties on In-Cylinder Heat Flux in a Motored SI Engine. SAE International Journal of Engines, 0, 5, 1286-1299.	0.4	10
88	Assessment of Empirical Heat Transfer Models for a CFR Engine Operated in HCCI Mode. , 0, , .		10
89	Increasing exhaust temperature to enable after-treatment operation on a two-stage turbo-charged medium speed marine diesel engine. Energy, 2018, 147, 681-687.	8.8	10
90	Alcohol Fuels for Spark-Ignition Engines: Performance, Efficiency, and Emission Effects at Mid to High Blend Rates for Ternary Mixtures. Energies, 2020, 13, 6390.	3.1	10

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91	On the effects of increased coolant temperatures of light duty engines on waste heat recovery. Applied Thermal Engineering, 2020, 172, 115157.	6.0	10
92	Spray Parameter Comparison between Diesel and Vegetable Oils for Non-Evaporating Conditions. , 2012, , .		9
93	Calibration of a TFG Sensor for Heat Flux Measurements in a S.I. Engine. SAE International Journal of Engines, 0, 8, 1692-1700.	0.4	9
94	Experimental investigation of the effect of engine settings on the wall heat flux during HCCI combustion. Energy, 2016, 116, 1077-1086.	8.8	9
95	Feasibility Study of a New Test Procedure to Identify High Emitters of Particulate Matter during Periodic Technical Inspection. , 0, , .		9
96	Development of a Simulation Code for Hydrogen Fuelled SI Engines. , 2006, , 247.		8
97	Evaluation of a Flow-Field-Based Heat Transfer Model for Premixed Spark-Ignition Engines on Hydrogen. , 0, , .		8
98	Effect of emulsified fuels based on fatty acid distillates on single cylinder diesel engine performance and exhaust emissions. Applied Thermal Engineering, 2017, 120, 187-195.	6.0	8
99	Development of Laminar Burning Velocity Correlation for the Simulation of Methanol Fueled SI Engines Operated with Onboard Fuel Reformer. , 0, , .		8
100	Investigation of evaporating sprays in a medium speed marine engine. Experimental Thermal and Fluid Science, 2021, 121, 110278.	2.7	8
101	Evaluation of Wall Heat Flux Models for Full Cycle CFD Simulation of Internal Combustion Engines under Motoring Operation. , 0, , .		7
102	Investigation of Supercharging Strategies for PFI Hydrogen Engines. , 2010, , .		6
103	Evolutionary decarbonization of transport: a contiguous roadmap to affordable mobility using sustainable organic fuels for transport. , 2012, , 71-88.		6
104	Demonstrating the Use of Thin Film Gauges for Heat Flux Measurements in ICEs: Measurements on an Inlet Valve in Motored Operation. , 0, , .		6
105	Emulsified fuels based on fatty acid distillates and rapeseed oil: A physicochemical characterization. Fuel, 2016, 185, 734-742.	6.4	6
106	Simulation Based Investigation of Achieving Low Temperature Combustion with Methanol in a Direct Injected Compression Ignition Engine. , 0, , .		6
107	Literature Review on Dual-Fuel Combustion Modelling. , 0, , .		6
108	Thermal behavior of Jatropha curcas oils and their derived fatty acid ethyl esters as potential feedstocks for energy production in Cuba. Journal of Thermal Analysis and Calorimetry, 2012, 109, 1005-1012.	3.6	5

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109	Design of a Fast Responding Start-Up Mechanism for Bi-Propellant Fueled Engine for Miniature UAV Applications. , 0, , .		5
110	A two control volume model for the Thermal Lag Engine. Energy Conversion and Management, 2014, 78, 565-573.	9.2	5
111	Optimization and Evaluation of a Low Temperature Waste Heat Recovery System for a Heavy Duty Engine over a Transient Cycle. SAE International Journal of Advances and Current Practices in Mobility, 0, 3, 159-170.	2.0	4
112	Development and Testing of an EGR System for Medium Speed Diesel Engines. , 2012, , .		3
113	A Heat Transfer Model for Low Temperature Combustion Engines. , 0, , .		3
114	Using Vegetable Oils and Animal Fats in Diesel Engines: Chemical Analyses and Engine Tests. , 0, , .		2
115	Reducing Engine-Out Emissions for Medium High Speed Diesel Engines: Influence of Injection Parameters. , 2009, , .		2
116	Evaluation of Some Important Boundary Conditions for Spray Measurements in a Constant Volume Combustion Chamber. , 2013, , .		2
117	FL1-3: A Two-Zone Thermodynamic Model for Hydrogen-Fueled S.I. Engines(FL: Fuels and) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 and Modeling of Combustion in Internal Combustion Engines, 2008, 2008.7, 773-778.	0.1	2
118	Performance of a single cylinder diesel engine fuelled with emulsified residual oleins and standard diesel fuel. Renewable Energy and Power Quality Journal, 0, , 183-188.	0.2	2
119	The Relevance of Different Fuel Indices to Describe Autoignition Behaviour of Gasoline in Light Duty DICI Engine under PPC Mode. , 0, , .		2
120	A Coupled Tabulated Kinetics and Flame Propagation Model for the Simulation of Fumigated Medium Speed Dual-Fuel Engines. , 0, , .		2
121	Numerical Optimization of Compression Ratio for a PPC Engine running on Methanol. , 0, , .		2
122	Combustion strategies for PFI hydrogen IC engines. International Journal of Nuclear Hydrogen Production and Applications, 2008, 1, 295.	0.2	1
123	Evaluation of Heat Transfer Models With Measurements in a Hydrogen-Fuelled Spark Ignition Engine. , 2010, , .		1
124	The Behavior of a Simplified Spray Model for Different Diesel and Bio-Diesel Surrogates. , 2015, , .		1
125	Studying the Effect of the Flame Passage on the Convective Heat Transfer in a S.I. Engine. , 2017, , .		1
126	Experimental Investigation and Modelling of the In-Cylinder Heat Transfer during Ringing Combustion in an HCCI Engine. , 0, , .		1

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127	Cold Flow Simulation of a Dual-Fuel Engine for Diesel-Natural Gas and Diesel-Methanol Fuelling Conditions. , 0, , .		1
128	Influence of the Injection Parameters on the Efficiency and Power Output of a Hydrogen Fueled Engine. , 2001, , .		1
129	Modeling of a Methanol Fueled Direct-Injection Spark-Ignition Engine with Reformed-Exhaust Gas Recirculation. , 0, , .		0
130	How Efficient are Hydrogen-Fueled Internal Combustion Engines?. , 2012, , 275-311.		0
131	Development and Validation of a Quasi-Dimensional Model for (M)Ethanol-Fuelled SI Engines. Lecture Notes in Electrical Engineering, 2013, , 977-994.	0.4	0
132	Experimental investigation on puffing and micro-explosion occurrence of water in rapeseed oil emulsions droplets. Effect of the surfactant concentration.. , 0, , .		0
133	Investigating the Potential of an Integrated Coolant Waste Heat Recovery System in an HD Engine Using PPC Operation. , 2018, , .		0
134	Cylinder to Cylinder Variation Related to Gas Injection Timing on a Dual-Fuel Engine. , 0, , .		0