

Sebastian Verhelst

List of Publications by Citations

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124
papers

4,438
citations

35
h-index

64
g-index

135
ext. papers

5,294
ext. citations

6.7
avg, IF

6.07
L-index

#	Paper	IF	Citations
124	Hydrogen-fueled internal combustion engines. <i>Progress in Energy and Combustion Science</i> , 2009 , 35, 490-528	33.6	579
123	Methanol as a fuel for internal combustion engines. <i>Progress in Energy and Combustion Science</i> , 2019 , 70, 43-88	33.6	291
122	Recent progress in the use of hydrogen as a fuel for internal combustion engines. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 1071-1085	6.7	204
121	Laminar burning velocity of gasoline and the gasoline surrogate components iso-octane, n-heptane and toluene. <i>Fuel</i> , 2013 , 112, 355-365	7.1	170
120	Laminar burning velocities of lean hydrogen-air mixtures at pressures up to 1.0 MPa. <i>Combustion and Flame</i> , 2007 , 149, 162-172	5.3	159
119	Combustion and emissions characteristics of a dual fuel engine operated on alternative gaseous fuels. <i>Fuel</i> , 2013 , 109, 669-678	7.1	152
118	The Chemical Route to a Carbon Dioxide Neutral World. <i>ChemSusChem</i> , 2017 , 10, 1039-1055	8.3	129
117	The potential of methanol as a fuel for flex-fuel and dedicated spark-ignition engines. <i>Applied Energy</i> , 2013 , 102, 140-149	10.7	117
116	Prediction of the cetane number of biodiesel using artificial neural networks and multiple linear regression. <i>Energy Conversion and Management</i> , 2013 , 65, 255-261	10.6	99
115	Laminar burning velocities of primary reference fuels and simple alcohols. <i>Fuel</i> , 2014 , 115, 32-40	7.1	97
114	Multi-zone thermodynamic modelling of spark-ignition engine combustion [An overview]. <i>Energy Conversion and Management</i> , 2009 , 50, 1326-1335	10.6	97
113	Laminar and unstable burning velocities and Markstein lengths of hydrogen-air mixtures at engine-like conditions. <i>Proceedings of the Combustion Institute</i> , 2005 , 30, 209-216	5.9	94
112	Experimental study of NO reduction on a medium speed heavy duty diesel engine by the application of EGR (exhaust gas recirculation) and Miller timing. <i>Energy</i> , 2014 , 76, 614-621	7.9	86
111	Assessment of diesel engine performance when fueled with biodiesel from algae and microalgae: An overview. <i>Renewable and Sustainable Energy Reviews</i> , 2017 , 69, 833-842	16.2	85
110	Increasing the power output of hydrogen internal combustion engines by means of supercharging and exhaust gas recirculation. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 4406-4412	6.7	85
109	Comparison of the renewable transportation fuels, hydrogen and methanol formed from hydrogen, with gasoline [Engine efficiency study]. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 9914-9924	6.7	76
108	Hydrogen engine-specific properties. <i>International Journal of Hydrogen Energy</i> , 2001 , 26, 987-990	6.7	76

107	A quasi-dimensional model for the power cycle of a hydrogen-fuelled ICE. <i>International Journal of Hydrogen Energy</i> , 2007 , 32, 3545-3554	6.7	75
106	Analysis of vehicle emission measurements on the new WLTC, the NEDC and the CADC. <i>Transportation Research, Part D: Transport and Environment</i> , 2014 , 32, 70-85	6.4	69
105	Recommendations for the new WLTP cycle based on an analysis of vehicle emission measurements on NEDC and CADC. <i>Energy Policy</i> , 2012 , 49, 234-242	7.2	60
104	Efficiency comparison between hydrogen and gasoline, on a bi-fuel hydrogen/gasoline engine. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 2504-2510	6.7	58
103	Temperature Dependence of the Laminar Burning Velocity of Methanol Flames. <i>Energy & Fuels</i> , 2012 , 26, 1557-1564	4.1	55
102	Local heat flux measurements in a hydrogen and methane spark ignition engine with a thermopile sensor. <i>International Journal of Hydrogen Energy</i> , 2009 , 34, 9857-9868	6.7	53
101	Emulsification of animal fats and vegetable oils for their use as a diesel engine fuel: An overview. <i>Renewable and Sustainable Energy Reviews</i> , 2015 , 47, 623-633	16.2	51
100	Impact of variable valve timing on power, emissions and backfire of a bi-fuel hydrogen/gasoline engine. <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 4399-4408	6.7	49
99	A Critical Review of Experimental Research on Hydrogen Fueled SI Engines 2006 ,		47
98	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. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 10917-10934	6.7	46
97	Thermal and kinetic evaluation of biodiesel derived from soybean oil and higuereeta oil. <i>Journal of Thermal Analysis and Calorimetry</i> , 2009 , 96, 897-901	4.1	46
96	Aspects concerning the optimisation of a hydrogen fueled engine. <i>International Journal of Hydrogen Energy</i> , 2001 , 26, 981-985	6.7	44
95	Ignition delay in a palm oil and rapeseed oil biodiesel fuelled engine and predictive correlations for the ignition delay period. <i>Fuel</i> , 2011 , 90, 766-772	7.1	42
94	On the applicability of empirical heat transfer models for hydrogen combustion engines. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 975-984	6.7	41
93	Performance and emissions of iso-stoichiometric ternary GEM blends on a production SI engine. <i>Fuel</i> , 2014 , 117, 286-293	7.1	40
92	A correlation for the laminar burning velocity for use in hydrogen spark ignition engine simulation. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 957-974	6.7	39
91	A combined experimental and numerical study of thermal processes, performance and nitric oxide emissions in a hydrogen-fueled spark-ignition engine. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 5163-5180	6.7	38
90	Alternative Fuels for Spark-Ignition Engines: Mixing Rules for the Laminar Burning Velocity of Gasoline-Alcohol Blends. <i>Energy & Fuels</i> , 2012 , 26, 4721-4727	4.1	35

89	Development and validation of a quasi-dimensional model for methanol and ethanol fueled SI engines. <i>Applied Energy</i> , 2014 , 132, 412-425	10.7	33
88	Experimental Investigation of a DISI Production Engine Fuelled with Methanol, Ethanol, Butanol and ISO-Stoichiometric Alcohol Blends 2015 ,		33
87	Conversion of by-products from the vegetable oil industry into biodiesel and its use in internal combustion engines: a review. <i>Brazilian Journal of Chemical Engineering</i> , 2014 , 31, 287-301	1.7	30
86	Investigation of the influence of engine settings on the heat flux in a hydrogen- and methane-fueled spark ignition engine. <i>Applied Thermal Engineering</i> , 2011 , 31, 1220-1228	5.8	30
85	Exploring the potential of reformed-exhaust gas recirculation (R-EGR) for increased efficiency of methanol fueled SI engines. <i>Fuel</i> , 2019 , 236, 778-791	7.1	28
84	A comprehensive overview of hydrogen engine design features. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2007 , 221, 911-920	1.4	25
83	Experimental Study of a Hydrogen-Fueled Engine. <i>Journal of Engineering for Gas Turbines and Power</i> , 2001 , 123, 211-216	1.7	25
82	Setting a best practice for determining the EGR rate in hydrogen internal combustion engines. <i>International Journal of Hydrogen Energy</i> , 2013 , 38, 2490-2503	6.7	24
81	Evaluation of empirical heat transfer models for HCCI combustion in a CFR engine. <i>Applied Energy</i> , 2017 , 205, 1141-1150	10.7	24
80	Laminar Burning Velocity Correlations for Methanol-Air and Ethanol-Air Mixtures Valid at SI Engine Conditions 2011 ,		24
79	Experimental investigation concerning the influence of fuel type and properties on the injection and atomization of liquid biofuels in an optical combustion chamber. <i>Biomass and Bioenergy</i> , 2013 , 57, 215-228	5.3	23
78	A laminar burning velocity and flame thickness correlation for ethanol-air mixtures valid at spark-ignition engine conditions. <i>Fuel</i> , 2012 , 102, 460-469	7.1	23
77	The effects of dilution with nitrogen and steam on the laminar burning velocity of methanol at room and elevated temperatures. <i>Fuel</i> , 2013 , 105, 732-738	7.1	23
76	A quasi-dimensional model for SI engines fueled with gasoline-alcohol blends: Knock modeling. <i>Fuel</i> , 2015 , 140, 217-226	7.1	22
75	Experimental investigation of emulsified fuels produced with a micro-channel emulsifier: Puffing and micro-explosion analyses. <i>Fuel</i> , 2018 , 219, 320-330	7.1	22
74	Heat transfer in premixed spark ignition engines part I: Identification of the factors influencing heat transfer. <i>Energy</i> , 2016 , 116, 380-391	7.9	22
73	Failure of fuel injectors in a medium speed diesel engine operating on bio-oil. <i>Biomass and Bioenergy</i> , 2012 , 40, 27-35	5.3	21
72	Effects of Supercharging, EGR and Variable Valve Timing on Power and Emissions of Hydrogen Internal Combustion Engines. <i>SAE International Journal of Engines</i> , 2008 , 1, 647-656	2.4	21

71	The turbulent burning velocity of methanol-air mixtures. <i>Fuel</i> , 2014 , 130, 76-91	7.1	19
70	Influence of the Injection Parameters on the Efficiency and Power Output of a Hydrogen Fueled Engine. <i>Journal of Engineering for Gas Turbines and Power</i> , 2003 , 125, 444-449	1.7	19
69	Alcohol fuels for spark-ignition engines: Performance, efficiency and emission effects at mid to high blend rates for binary mixtures and pure components. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2018 , 232, 36-56	1.4	18
68	Heat transfer in premixed spark ignition engines part II: Systematic analysis of the heat transfer phenomena. <i>Energy</i> , 2016 , 116, 851-860	7.9	17
67	Experimental Evaluation of Lean-burn and EGR as Load Control Strategies for Methanol Engines 2012 ,		17
66	Performance of methanol kinetic mechanisms at oxy-fuel conditions. <i>Combustion and Flame</i> , 2015 , 162, 1719-1728	5.3	16
65	Prediction of Cetane Number and Ignition Delay of Biodiesel Using Artificial Neural Networks. <i>Energy Procedia</i> , 2014 , 57, 877-885	2.3	16
64	Characterization of Jatropha curcas oils and their derived fatty acid ethyl esters obtained from two different plantations in Cuba. <i>Biomass and Bioenergy</i> , 2011 , 35, 4092-4098	5.3	16
63	Development and Validation of a Knock Prediction Model for Methanol-Fuelled SI Engines 2013 ,		15
62	Electricity Powering Combustion: Hydrogen Engines. <i>Proceedings of the IEEE</i> , 2012 , 100, 427-439	14.3	13
61	Computational Study of the Laminar Reaction Front Properties of Diluted Methanol-Air Flames Enriched by the Fuel Reforming Product. <i>Energy & Fuels</i> , 2017 , 31, 9991-10002	4.1	12
60	High-Speed Characterization of ECN Spray A Using Various Diagnostic Techniques. <i>SAE International Journal of Engines</i> , 2013 , 6, 1238-1248	2.4	12
59	Combustion Studies for PFI Hydrogen IC Engines 2007 ,		12
58	Water management in an alkaline fuel cell. <i>International Journal of Hydrogen Energy</i> , 2011 , 36, 11011-11024	10.7	11
57	Quantification and Analysis of the Charge Cooling Effect of Methanol in a Compression Ignition Engine Utilizing PPC Strategy 2018 ,		11
56	Evaluation of empirical heat transfer models using TFG heat flux sensors. <i>Applied Thermal Engineering</i> , 2017 , 118, 561-569	5.8	10
55	Heat Loss Comparison Between Hydrogen, Methane, Gasoline and Methanol in a Spark-Ignition Internal Combustion Engine. <i>Energy Procedia</i> , 2012 , 29, 138-146	2.3	10
54	Drive Cycle Analysis of Load Control Strategies for Methanol Fuelled ICE Vehicle 2012 ,		10

53	Increasing exhaust temperature to enable after-treatment operation on a two-stage turbo-charged medium speed marine diesel engine. <i>Energy</i> , 2018 , 147, 681-687	7.9	9
52	. <i>Proceedings of the IEEE</i> , 2014 , 102, 1399-1403	14.3	9
51	Update on the Progress of Hydrogen-Fueled Internal Combustion Engines 2013 , 381-400		9
50	Performance and Emissions of a SI Engine using Methanol-Water Blends 2013 ,		9
49	Multifuel CHP HCCI Engine towards Flexible Power-to-fuel: Numerical Study of Operating Range. <i>Energy Procedia</i> , 2017 , 105, 1532-1538	2.3	8
48	Assessment of Empirical Heat Transfer Models for a CFR Engine Operated in HCCI Mode 2015 ,		8
47	A novel technique for detailed and time-efficient combustion modeling of fumigated dual-fuel internal combustion engines. <i>Applied Thermal Engineering</i> , 2020 , 174, 115224	5.8	8
46	Downsizing Potential of Methanol Fueled DISI Engine with Variable Valve Timing and Boost Control 2018 ,		8
45	Calibration of a TFG Sensor for Heat Flux Measurements in a S.I. Engine. <i>SAE International Journal of Engines</i> , 2015 , 8, 1692-1700	2.4	8
44	Spray Parameter Comparison between Diesel and Vegetable Oils for Non-Evaporating Conditions 2012 ,		8
43	Applying Design of Experiments to Determine the Effect of Gas Properties on In-Cylinder Heat Flux in a Motored SI Engine. <i>SAE International Journal of Engines</i> , 2012 , 5, 1286-1299	2.4	8
42	A quasi-dimensional combustion model for spark ignition engines fueled with gasoline-methanol blends. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2018 , 232, 57-74	1.4	8
41	Effects of molar expansion ratio of fuels on engine efficiency. <i>Fuel</i> , 2020 , 263, 116743	7.1	8
40	Effect of emulsified fuels based on fatty acid distillates on single cylinder diesel engine performance and exhaust emissions. <i>Applied Thermal Engineering</i> , 2017 , 120, 187-195	5.8	7
39	Development of Laminar Burning Velocity Correlation for the Simulation of Methanol Fueled SI Engines Operated with Onboard Fuel Reformer 2017 ,		7
38	Experimental investigation of the effect of engine settings on the wall heat flux during HCCI combustion. <i>Energy</i> , 2016 , 116, 1077-1086	7.9	7
37	Thermal and electrical performance of an alkaline fuel cell. <i>Applied Thermal Engineering</i> , 2012 , 40, 227-235	3.5	6
36	Evolutionary decarbonization of transport: a contiguous roadmap to affordable mobility using sustainable organic fuels for transport 2012 , 71-88		6

35	Combustion Characterization of Methanol in a Lean Burn Direct Injection Spark Ignition (DISI) Engine		6
34	Influence of Injection Strategies on Engine Efficiency for a Methanol PPC Engine		6
33	Demonstrating the Use of Thin Film Gauges for Heat Flux Measurements in ICEs: Measurements on an Inlet Valve in Motored Operation 2016 ,		6
32	Impact of Mileage on Particle Number Emission Factors for EURO5 and EURO6 Diesel Passenger Cars. <i>Atmospheric Environment</i> , 2021 , 244, 117975	5.3	6
31	Emulsified fuels based on fatty acid distillates and rapeseed oil: A physicochemical characterization. <i>Fuel</i> , 2016 , 185, 734-742	7.1	5
30	Evaluation of Wall Heat Flux Models for Full Cycle CFD Simulation of Internal Combustion Engines under Motoring Operation 2017 ,		5
29	Thermal behavior of Jatropha curcas oils and their derived fatty acid ethyl esters as potential feedstocks for energy production in Cuba. <i>Journal of Thermal Analysis and Calorimetry</i> , 2012 , 109, 1005-1012	4.1	5
28	Evaluation of a Flow-Field-Based Heat Transfer Model for Premixed Spark-Ignition Engines on Hydrogen 2013 ,		5
27	Development of a Simulation Code for Hydrogen Fuelled SI Engines 2006 , 247		5
26	A Laminar Burning Velocity Correlation for Hydrogen/Air Mixtures Valid at Spark-Ignition Engine Conditions 2003 , 35		5
25	Retrofitting a high-speed marine engine to dual-fuel methanol-diesel operation: A comparison of multiple and single point methanol port injection. <i>Fuel Communications</i> , 2021 , 7, 100010	1	5
24	Evaluation of wall heat flux calculation methods for CFD simulations of an internal combustion engine under both motored and HCCI operation. <i>Applied Energy</i> , 2018 , 232, 451-461	10.7	5
23	Alcohol Fuels for Spark-Ignition Engines: Performance, Efficiency, and Emission Effects at Mid to High Blend Rates for Ternary Mixtures. <i>Energies</i> , 2020 , 13, 6390	3.1	4
22	Simulation Based Investigation of Achieving Low Temperature Combustion with Methanol in a Direct Injected Compression Ignition Engine		4
21	Investigation of evaporating sprays in a medium speed marine engine. <i>Experimental Thermal and Fluid Science</i> , 2021 , 121, 110278	3	4
20	A two control volume model for the Thermal Lag Engine. <i>Energy Conversion and Management</i> , 2014 , 78, 565-573	10.6	3
19	Design of a Fast Responding Start-Up Mechanism for Bi-Propellant Fueled Engine for Miniature UAV Applications 2013 ,		3
18	A Heat Transfer Model for Low Temperature Combustion Engines 2018 ,		3

17	On the effects of increased coolant temperatures of light duty engines on waste heat recovery. <i>Applied Thermal Engineering</i> , 2020 , 172, 115157	5.8	2
16	Evaluation of Some Important Boundary Conditions for Spray Measurements in a Constant Volume Combustion Chamber 2013 ,		2
15	Investigation of Supercharging Strategies for PFI Hydrogen Engines 2010 ,		2
14	FL1-3: A Two-Zone Thermodynamic Model for Hydrogen-Fueled S.I. Engines (FL: Fuels and Lubricants, General Session Papers). <i>The Proceedings of the International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines</i> , 2008 , 2008.7, 773-778		2
13	Performance of a single cylinder diesel engine fuelled with emulsified residual oleins and standard diesel fuel. <i>Renewable Energy and Power Quality Journal</i> , 183-188		2
12	Studying the Effect of the Flame Passage on the Convective Heat Transfer in a S.I. Engine 2017 ,		1
11	The Behavior of a Simplified Spray Model for Different Diesel and Bio-Diesel Surrogates 2015 ,		1
10	Development and Testing of an EGR System for Medium Speed Diesel Engines 2012 ,		1
9	Using Vegetable Oils and Animal Fats in Diesel Engines: Chemical Analyses and Engine Tests 2009 ,		1
8	Reducing Engine-Out Emissions for Medium High Speed Diesel Engines: Influence of Injection Parameters 2009 ,		1
7	Evaluation of Heat Transfer Models With Measurements in a Hydrogen-Fuelled Spark Ignition Engine 2010 ,		1
6	Combustion strategies for PFI hydrogen IC engines. <i>International Journal of Nuclear Hydrogen Production and Applications</i> , 2008 , 1, 295		1
5	Optimization and Evaluation of a Low Temperature Waste Heat Recovery System for a Heavy Duty Engine over a Transient Cycle. <i>SAE International Journal of Advances and Current Practices in Mobility</i> , 3, 159-170	1	1
4	Literature Review on Dual-Fuel Combustion Modelling		1
3	Feasibility Study of a New Test Procedure to Identify High Emitters of Particulate Matter during Periodic Technical Inspection		1
2	Applying Design of Experiments to Develop a Fuel Independent Heat Transfer Model for Spark Ignition Engines. <i>Lecture Notes in Electrical Engineering</i> , 2013 , 1165-1177	0.2	
1	Development and Validation of a Quasi-Dimensional Model for (M)Ethanol-Fuelled SI Engines. <i>Lecture Notes in Electrical Engineering</i> , 2013 , 977-994	0.2	