

# Alberto Broatch

## List of Publications by Year in descending order

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99  
papers

2,213  
citations

218381

26  
h-index

301761

39  
g-index

99  
all docs

99  
docs citations

99  
times ranked

1101  
citing authors

#	ARTICLE	IF	CITATIONS
1	Investigation of the effects of turbulence modeling on the prediction of compression-ignition combustion unsteadiness. <i>International Journal of Engine Research</i> , 2022, 23, 541-559.	1.4	7
2	Assessment of the fluid-dynamic and acoustic behaviour of a swirl static mixer for after-treatment systems. <i>Applied Acoustics</i> , 2022, 186, 108446.	1.7	1
3	Experimental evidence of the Poisson-like effect for flexural waves in thin metallic plates. <i>Applied Physics Letters</i> , 2022, 120, 094102.	1.5	1
4	Experimental aerothermal characterization of surface air-cooled oil coolers for turbofan engines. <i>International Journal of Heat and Mass Transfer</i> , 2022, 190, 122775.	2.5	7
5	Improvement in engine thermal management by changing coolant and oil mass. <i>Applied Thermal Engineering</i> , 2022, 212, 118513.	3.0	9
6	Assessment of the improvement of internal combustion engines cooling system using nanofluids and nanoencapsulated phase change materials. <i>International Journal of Engine Research</i> , 2021, 22, 1939-1957.	1.4	9
7	A one-dimensional modeling study on the effect of advanced insulation coatings on internal combustion engine efficiency. <i>International Journal of Engine Research</i> , 2021, 22, 2390-2404.	1.4	10
8	Conjugate heat transfer study of the impact of "thermo-swing"™ coatings on internal combustion engines heat losses. <i>International Journal of Engine Research</i> , 2021, 22, 2958-2967.	1.4	9
9	Understanding the unsteady pressure field inside combustion chambers of compression-ignited engines using a computational fluid dynamics approach. <i>International Journal of Engine Research</i> , 2020, 21, 1273-1285.	1.4	10
10	Acoustic characteristics of a ported shroud turbocompressor operating at design conditions. <i>International Journal of Engine Research</i> , 2020, 21, 1454-1468.	1.4	11
11	Impact of simple surge-enhancing inlet geometries on the acoustic behavior of a turbocompressor. <i>International Journal of Engine Research</i> , 2020, 21, 794-800.	1.4	3
12	Analysis of combustion acoustic phenomena in compression-ignition engines using large eddy simulation. <i>Physics of Fluids</i> , 2020, 32, 085101.	1.6	12
13	Experimental verification of hydrodynamic similarity in hot flows. <i>Experimental Thermal and Fluid Science</i> , 2020, 119, 110220.	1.5	6
14	Application of a zero-dimensional model to assess the effect of swirl on indicated efficiency. <i>International Journal of Engine Research</i> , 2019, 20, 837-848.	1.4	3
15	Acoustic characterisation of a small high-speed centrifugal compressor with casing treatment: An experimental study. <i>Aerospace Science and Technology</i> , 2019, 95, 105518.	2.5	16
16	New approach to study the heat transfer in internal combustion engines by 3D modelling. <i>International Journal of Thermal Sciences</i> , 2019, 138, 405-415.	2.6	27
17	Dynamic mode decomposition of the acoustic field in radial compressors. <i>Aerospace Science and Technology</i> , 2019, 90, 388-400.	2.5	43
18	Numerical simulations for evaluating the impact of advanced insulation coatings on H2 additivated gasoline lean combustion in a turbocharged spark-ignited engine. <i>Applied Thermal Engineering</i> , 2019, 148, 674-683.	3.0	19

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19	Acoustic and pressure characteristics of a ported shroud turbocompressor operating at near surge conditions. <i>Applied Acoustics</i> , 2019, 148, 434-447.	1.7	13
20	On the shift of acoustic characteristics of compression-ignited engines when operating with gasoline partially premixed combustion. <i>Applied Thermal Engineering</i> , 2019, 146, 223-231.	3.0	7
21	Numerical approach for assessing combustion noise in compression-ignited Diesel engines. <i>Applied Acoustics</i> , 2018, 135, 91-100.	1.7	17
22	Potential of dual spray injectors for optimising the noise emission of gasoline partially premixed combustion in a 2-stroke HSDI CI engine. <i>Applied Thermal Engineering</i> , 2018, 134, 369-378.	3.0	10
23	Modal decomposition of the unsteady flow field in compression-ignited combustion chambers. <i>Combustion and Flame</i> , 2018, 188, 469-482.	2.8	29
24	On the influence of inlet elbow radius on recirculating backflow, whoosh noise and efficiency in turbocharger compressors. <i>Experimental Thermal and Fluid Science</i> , 2018, 96, 224-233.	1.5	11
25	Analysis of Passenger Car Turbocharged Diesel Engines Performance When Tested at Altitude and of the Altitude Simulator Device Used. , 2018, , .		2
26	Experimental Analysis of Cyclical Dispersion in Compression-Ignited Versus Spark-Ignited Engines and Its Significance for Combustion Noise Numerical Modeling. <i>Journal of Engineering for Gas Turbines and Power</i> , 2018, 140, .	0.5	6
27	Development and Validation of a Submodel for Thermal Exchanges in the Hydraulic Circuits of a Global Engine Model. , 2018, , .		6
28	Measuring turbocharger compressor inlet backflow through particle image velocimetry. <i>Experimental Thermal and Fluid Science</i> , 2018, 99, 420-432.	1.5	5
29	Impact of the injector design on the combustion noise of gasoline partially premixed combustion in a 2-stroke engine. <i>Applied Thermal Engineering</i> , 2017, 119, 530-540.	3.0	21
30	On the effect of different flux limiters on the performance of an engine gas exchange gas-dynamic model. <i>International Journal of Mechanical Sciences</i> , 2017, 133, 740-751.	3.6	7
31	Experimental study of the influence of exhaust gas recirculation on heat transfer in the firedeck of a direct injection diesel engine. <i>Energy Conversion and Management</i> , 2017, 153, 304-312.	4.4	14
32	Local flow measurements in a turbocharger compressor inlet. <i>Experimental Thermal and Fluid Science</i> , 2017, 88, 542-553.	1.5	21
33	Impact of gasoline and Diesel blends on combustion noise and pollutant emissions in Premixed Charge Compression Ignition engines. <i>Energy</i> , 2017, 137, 58-68.	4.5	44
34	Definition of wind blowers for vehicles testing at chassis-dyno facilities using a CFD approach. <i>Transportation Research, Part D: Transport and Environment</i> , 2017, 55, 99-112.	3.2	2
35	Impact of swirl on in-cylinder heat transfer in a light-duty diesel engine. <i>Energy</i> , 2017, 119, 1010-1023.	4.5	28
36	A Study of the Transient Response of Duct Junctions: Measurements and Gas-Dynamic Modeling with a Staggered Mesh Finite Volume Approach. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 480.	1.3	2

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37	Towards a Predictive CFD Approach for Assessing Noise in Diesel Compression Ignition Engines.. The Proceedings of the International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines, 2017, 2017.9, A110.	0.1	5
38	Numerical and experimental analysis of automotive turbocharger compressor aeroacoustics at different operating conditions. International Journal of Heat and Fluid Flow, 2016, 61, 245-255.	1.1	33
39	Experimental methodology for turbocompressor in-duct noise evaluation based on beamforming wave decomposition. Journal of Sound and Vibration, 2016, 376, 60-71.	2.1	15
40	Combustion noise analysis of partially premixed combustion concept using gasoline fuel in a 2-stroke engine. Energy, 2016, 107, 612-624.	4.5	30
41	A non-linear quasi-3D model with Flux-Corrected-Transport for engine gas-exchange modelling. Journal of Computational and Applied Mathematics, 2016, 291, 103-111.	1.1	4
42	Determination of the resonance response in an engine cylinder with a bowl-in-piston geometry by the finite element method for inferring the trapped mass. International Journal of Engine Research, 2016, 17, 534-542.	1.4	7
43	A Note on Bubble Sizes in Subcooled Flow Boiling at Low Velocities in Internal Combustion Engine-Like Conditions. Journal of Applied Fluid Mechanics, 2016, 9, 2321-2332.	0.4	3
44	Simulations and measurements of automotive turbocharger compressor whoosh noise. Engineering Applications of Computational Fluid Mechanics, 2015, 9, 12-20.	1.5	32
45	A direct transform for determining the trapped mass on an internal combustion engine based on the in-cylinder pressure resonance phenomenon. Mechanical Systems and Signal Processing, 2015, 62-63, 480-489.	4.4	23
46	Acoustic characterization of automotive turbocompressors. International Journal of Engine Research, 2015, 16, 31-37.	1.4	22
47	Experiments on subcooled flow boiling in I.C. engine-like conditions at low flow velocities. Experimental Thermal and Fluid Science, 2014, 52, 347-354.	1.5	23
48	Impact of biodiesel fuel on cold starting of automotive direct injection diesel engines. Energy, 2014, 73, 653-660.	4.5	50
49	Methodology for experimental validation of a CFD model for predicting noise generation in centrifugal compressors. International Journal of Heat and Fluid Flow, 2014, 50, 134-144.	1.1	48
50	A view on the internal consistency of linear source identification for I.C. engine exhaust noise prediction. Mathematical and Computer Modelling, 2013, 57, 1867-1875.	2.0	25
51	Sensitivity of combustion noise and NOx and soot emissions to pilot injection in PCCI Diesel engines. Applied Energy, 2013, 104, 149-157.	5.1	149
52	Impact of Fischer-Tropsch and biodiesel fuels on trade-offs between pollutant emissions and combustion noise in diesel engines. Biomass and Bioenergy, 2013, 52, 22-33.	2.9	51
53	Analysis of acoustic networks including cavities by means of a linear finite volume method. Journal of Sound and Vibration, 2012, 331, 4575-4586.	2.1	10
54	A Basic Study on Acoustic Response of Non-symmetric Perforated Duct Mufflers. , 2011, , .		0

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55	Experimentalâ€“theoretical methodology for determination of inertial pressure drop distribution and pore structure properties in wall-flow diesel particulate filters (DPFs). <i>Energy</i> , 2011, 36, 6731-6744.	4.5	48
56	Experiments on the influence of intake conditions on local instantaneous heat flux in reciprocating internal combustion engines. <i>Energy</i> , 2011, 36, 60-69.	4.5	11
57	Suitability analysis of advanced diesel combustion concepts for emissions and noise control. <i>Energy</i> , 2011, 36, 825-838.	4.5	73
58	Investigation of Diesel combustion using multiple injection strategies for idling after cold start of passenger-car engines. <i>Experimental Thermal and Fluid Science</i> , 2010, 34, 857-865.	1.5	50
59	Acoustic response of fibrous absorbent materials to impulsive transient excitations. <i>Journal of Sound and Vibration</i> , 2010, 329, 880-892.	2.1	4
60	A contribution to film coefficient estimation in piston cooling galleries. <i>Experimental Thermal and Fluid Science</i> , 2010, 34, 142-151.	1.5	44
61	Methodology to estimate the threshold in-cylinder temperature for self-ignition of fuel during cold start of Diesel engines. <i>Energy</i> , 2010, 35, 2251-2260.	4.5	56
62	Acoustic performance of Herschel-Quincke tubes with gradually variable cross-section ducts. <i>Noise Control Engineering Journal</i> , 2009, 57, 16.	0.2	0
63	Sound quality assessment of Diesel combustion noise using in-cylinder pressure components. <i>Measurement Science and Technology</i> , 2009, 20, 015107.	1.4	28
64	Assessment of diesel combustion noise overall level in transient operation. <i>International Journal of Automotive Technology</i> , 2009, 10, 761-769.	0.7	19
65	Methodology of fault detection in internal combustion engines through the analysis of rolling block oscillation. <i>International Journal of Heavy Vehicle Systems</i> , 2009, 16, 294.	0.1	1
66	Measurement of hydrocarbon and carbon monoxide emissions during the starting of automotive DI Diesel engines. <i>International Journal of Automotive Technology</i> , 2008, 9, 129-140.	0.7	24
67	Assessment of the influence of different cooling system configurations on engine warm-up, emissions and fuel consumption. <i>International Journal of Automotive Technology</i> , 2008, 9, 447-458.	0.7	61
68	A procedure to reduce pollutant gases from Diesel combustion during European MVEG-A cycle by using electrical intake air-heaters. <i>Fuel</i> , 2008, 87, 2760-2778.	3.4	28
69	A contribution to the diagnosis of internal combustion engines through rolling block oscillations. <i>Insight: Non-Destructive Testing and Condition Monitoring</i> , 2008, 50, 637-641.	0.3	1
70	Computational study of the sensitivity to ignition characteristics of the resonance in DI diesel engine combustion chambers. <i>Engineering Computations</i> , 2007, 24, 77-96.	0.7	23
71	Combustion noise level assessment in direct injection Diesel engines by means of in-cylinder pressure components. <i>Measurement Science and Technology</i> , 2007, 18, 2131-2142.	1.4	70
72	Time-domain computation of muffler frequency response: Comparison of different numerical schemes. <i>Journal of Sound and Vibration</i> , 2007, 305, 333-347.	2.1	34

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73	Study of the Potential of Intake Air Heating in Automotive DI Diesel Engines. , 2006, , .		26
74	An investigation into the passive acoustic effect of the turbine in an automotive turbocharger. Journal of Sound and Vibration, 2006, 295, 60-75.	2.1	21
75	Description and measurement of the acoustic characteristics of two-tailpipe mufflers. Journal of the Acoustical Society of America, 2006, 119, 723.	0.5	3
76	Time-domain modelling of turbo-compressors in direct injection diesel engines. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2006, 220, 445-457.	1.1	4
77	A note on the Strouhal number dependence of the relative importance of internal and external flow noise sources in IC engine exhaust systems. Journal of Sound and Vibration, 2005, 282, 1255-1263.	2.1	31
78	Experimental assessment of emission models used for IC engine exhaust noise prediction. Experimental Thermal and Fluid Science, 2005, 30, 97-107.	1.5	28
79	New methodology for in-cylinder pressure analysis in direct injection diesel engines” application to combustion noise. Measurement Science and Technology, 2005, 16, 540-547.	1.4	103
80	A CFD APPROACH TO THE COMPUTATION OF THE ACOUSTIC RESPONSE OF EXHAUST MUFFLERS. Journal of Computational Acoustics, 2005, 13, 301-316.	1.0	51
81	Combustion chamber resonances in direct injection automotive diesel engines: A numerical approach. International Journal of Engine Research, 2004, 5, 83-91.	1.4	46
82	Wavelet Transform applied to Combustion Noise Analysis in High-speed DI Diesel Engines. , 2001, , .		24
83	The Use of Transfer Matrix for the Design of Interferencial Systems in Exhaust Mufflers. , 2000, , .		25
84	Estimation of velocity fluctuation in internal combustion engine exhaust systems through beamforming techniques. Measurement Science and Technology, 2000, 11, 1585-1595.	1.4	30
85	Modified impulse method for the measurement of the frequency response of acoustic filters to weakly nonlinear transient excitations. Journal of the Acoustical Society of America, 2000, 107, 731-738.	0.5	47
86	A study of the influence of mean flow on the acoustic performance of Herschel”Quincke tubes. Journal of the Acoustical Society of America, 2000, 107, 1874-1879.	0.5	33
87	Numerical Estimation of End Corrections in Extended-Duct and Perforated-Duct Mufflers. Journal of Vibration and Acoustics, Transactions of the ASME, 1999, 121, 302-308.	1.0	26
88	Pressure Loss Characterisation of Perforated Ducts. , 1998, , .		25
89	A Numerical Study of the Behaviour of a Turbocharged Diesel Engine as a Noise Source. , 1997, , .		4
90	Hybrid Linear/Nonlinear Method for Exhaust Noise Prediction. , 1995, , .		12

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91	A Theoretical and Experimental Study of the Behaviour of Concentric Perforated Duct Automotive Mufflers. , 0, , .		4
92	On the Influence of Manifold Geometry on Exhaust Noise. , 0, , .		5
93	A CFD APPROACH TO DIESEL ENGINE COMBUSTION CHAMBER RESONANCE. , 0, , .		12
94	An Experimental Investigation of Diesel-Gasoline Blends Effects in a Direct-Injection Compression-Ignition Engine Operating in PCCI Conditions. , 0, , .		19
95	Compact High-Pressure Intake Silencer with Multilayer Porous Material. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 9, 1078-1085.	0.4	1
96	Development of a Virtual CFR Engine Model for Knocking Combustion Analysis. SAE International Journal of Engines, 0, 11, 1069-1082.	0.4	48
97	Numerical Methodology for Optimization of Compression-Ignited Engines Considering Combustion Noise Control. SAE International Journal of Engines, 0, 11, 625-642.	0.4	23
98	Numerical Estimation of Wiebe Function Parameters Using Artificial Neural Networks in SI Engine. , 0, , .		4
99	Validation and Analysis of Heat Losses Prediction Using Conjugate Heat Transfer Simulation for an Internal Combustion Engine. , 0, , .		5