

# Alberto Broatch

## List of Publications by Year in descending order

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times ranked

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#	ARTICLE	IF	CITATIONS
1	Sensitivity of combustion noise and NOx and soot emissions to pilot injection in PCCI Diesel engines. <i>Applied Energy</i> , 2013, 104, 149-157.	10.1	149
2	New methodology for in-cylinder pressure analysis in direct injection diesel engines”application to combustion noise. <i>Measurement Science and Technology</i> , 2005, 16, 540-547.	2.6	103
3	Suitability analysis of advanced diesel combustion concepts for emissions and noise control. <i>Energy</i> , 2011, 36, 825-838.	8.8	73
4	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.	2.6	70
5	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.	1.4	61
6	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.	8.8	56
7	A CFD APPROACH TO THE COMPUTATION OF THE ACOUSTIC RESPONSE OF EXHAUST MUFFLERS. <i>Journal of Computational Acoustics</i> , 2005, 13, 301-316.	1.0	51
8	Impact of Fischer-Tropsch and biodiesel fuels on trade-offs between pollutant emissions and combustion noise in diesel engines. <i>Biomass and Bioenergy</i> , 2013, 52, 22-33.	5.7	51
9	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.	2.7	50
10	Impact of biodiesel fuel on cold starting of automotive direct injection diesel engines. <i>Energy</i> , 2014, 73, 653-660.	8.8	50
11	Experimental-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.	8.8	48
12	Methodology for experimental validation of a CFD model for predicting noise generation in centrifugal compressors. <i>International Journal of Heat and Fluid Flow</i> , 2014, 50, 134-144.	2.4	48
13	Development of a Virtual CFR Engine Model for Knocking Combustion Analysis. <i>SAE International Journal of Engines</i> , 0, 11, 1069-1082.	0.4	48
14	Modified impulse method for the measurement of the frequency response of acoustic filters to weakly nonlinear transient excitations. <i>Journal of the Acoustical Society of America</i> , 2000, 107, 731-738.	1.1	47
15	Combustion chamber resonances in direct injection automotive diesel engines: A numerical approach. <i>International Journal of Engine Research</i> , 2004, 5, 83-91.	2.3	46
16	A contribution to film coefficient estimation in piston cooling galleries. <i>Experimental Thermal and Fluid Science</i> , 2010, 34, 142-151.	2.7	44
17	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.	8.8	44
18	Dynamic mode decomposition of the acoustic field in radial compressors. <i>Aerospace Science and Technology</i> , 2019, 90, 388-400.	4.8	43

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19	Time-domain computation of muffler frequency response: Comparison of different numerical schemes. Journal of Sound and Vibration, 2007, 305, 333-347.	3.9	34
20	A study of the influence of mean flow on the acoustic performance of Herschelâ€“Quincke tubes. Journal of the Acoustical Society of America, 2000, 107, 1874-1879.	1.1	33
21	Numerical and experimental analysis of automotive turbocharger compressor aeroacoustics at different operating conditions. International Journal of Heat and Fluid Flow, 2016, 61, 245-255.	2.4	33
22	Simulations and measurements of automotive turbocharger compressor whoosh noise. Engineering Applications of Computational Fluid Mechanics, 2015, 9, 12-20.	3.1	32
23	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.	3.9	31
24	Estimation of velocity fluctuation in internal combustion engine exhaust systems through beamforming techniques. Measurement Science and Technology, 2000, 11, 1585-1595.	2.6	30
25	Combustion noise analysis of partially premixed combustion concept using gasoline fuel in a 2-stroke engine. Energy, 2016, 107, 612-624.	8.8	30
26	Modal decomposition of the unsteady flow field in compression-ignited combustion chambers. Combustion and Flame, 2018, 188, 469-482.	5.2	29
27	Experimental assessment of emission models used for IC engine exhaust noise prediction. Experimental Thermal and Fluid Science, 2005, 30, 97-107.	2.7	28
28	A procedure to reduce pollutant gases from Diesel combustion during European MVEG-A cycle by using electrical intake air-heaters. Fuel, 2008, 87, 2760-2778.	6.4	28
29	Sound quality assessment of Diesel combustion noise using in-cylinder pressure components. Measurement Science and Technology, 2009, 20, 015107.	2.6	28
30	Impact of swirl on in-cylinder heat transfer in a light-duty diesel engine. Energy, 2017, 119, 1010-1023.	8.8	28
31	New approach to study the heat transfer in internal combustion engines by 3D modelling. International Journal of Thermal Sciences, 2019, 138, 405-415.	4.9	27
32	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.	1.6	26
33	Study of the Potential of Intake Air Heating in Automotive DI Diesel Engines. , 2006, , .		26
34	Pressure Loss Characterisation of Perforated Ducts. , 1998, , .		25
35	The Use of Transfer Matrix for the Design of Interferencial Systems in Exhaust Mufflers. , 2000, , .		25
36	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

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37	Wavelet Transform applied to Combustion Noise Analysis in High-speed DI Diesel Engines. , 2001, , .		24
38	Measurement of hydrocarbon and carbon monoxide emissions during the starting of automotive DI Diesel engines. International Journal of Automotive Technology, 2008, 9, 129-140.	1.4	24
39	Computational study of the sensitivity to ignition characteristics of the resonance in DI diesel engine combustion chambers. Engineering Computations, 2007, 24, 77-96.	1.4	23
40	Experiments on subcooled flow boiling in I.C. engine-like conditions at low flow velocities. Experimental Thermal and Fluid Science, 2014, 52, 347-354.	2.7	23
41	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.	8.0	23
42	Numerical Methodology for Optimization of Compression-Ignited Engines Considering Combustion Noise Control. SAE International Journal of Engines, 0, 11, 625-642.	0.4	23
43	Acoustic characterization of automotive turbocompressors. International Journal of Engine Research, 2015, 16, 31-37.	2.3	22
44	An investigation into the passive acoustic effect of the turbine in an automotive turbocharger. Journal of Sound and Vibration, 2006, 295, 60-75.	3.9	21
45	Impact of the injector design on the combustion noise of gasoline partially premixed combustion in a 2-stroke engine. Applied Thermal Engineering, 2017, 119, 530-540.	6.0	21
46	Local flow measurements in a turbocharger compressor inlet. Experimental Thermal and Fluid Science, 2017, 88, 542-553.	2.7	21
47	Assessment of diesel combustion noise overall level in transient operation. International Journal of Automotive Technology, 2009, 10, 761-769.	1.4	19
48	An Experimental Investigation of Diesel-Gasoline Blends Effects in a Direct-Injection Compression-Ignition Engine Operating in PCCI Conditions. , 0, , .		19
49	Numerical simulations for evaluating the impact of advanced insulation coatings on H2 additivated gasoline lean combustion in a turbocharged spark-ignited engine. Applied Thermal Engineering, 2019, 148, 674-683.	6.0	19
50	Numerical approach for assessing combustion noise in compression-ignited Diesel engines. Applied Acoustics, 2018, 135, 91-100.	3.3	17
51	Acoustic characterisation of a small high-speed centrifugal compressor with casing treatment: An experimental study. Aerospace Science and Technology, 2019, 95, 105518.	4.8	16
52	Experimental methodology for turbocompressor in-duct noise evaluation based on beamforming wave decomposition. Journal of Sound and Vibration, 2016, 376, 60-71.	3.9	15
53	Experimental study of the influence of exhaust gas recirculation on heat transfer in the firedeck of a direct injection diesel engine. Energy Conversion and Management, 2017, 153, 304-312.	9.2	14
54	Acoustic and pressure characteristics of a ported shroud turbocompressor operating at near surge conditions. Applied Acoustics, 2019, 148, 434-447.	3.3	13

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55	Hybrid Linear/Nonlinear Method for Exhaust Noise Prediction. , 1995, , .		12
56	A CFD APPROACH TO DIESEL ENGINE COMBUSTION CHAMBER RESONANCE. , 0, , .		12
57	Analysis of combustion acoustic phenomena in compression-ignition engines using large eddy simulation. Physics of Fluids, 2020, 32, 085101.	4.0	12
58	Experiments on the influence of intake conditions on local instantaneous heat flux in reciprocating internal combustion engines. Energy, 2011, 36, 60-69.	8.8	11
59	On the influence of inlet elbow radius on recirculating backflow, whoosh noise and efficiency in turbocharger compressors. Experimental Thermal and Fluid Science, 2018, 96, 224-233.	2.7	11
60	Acoustic characteristics of a ported shroud turbocompressor operating at design conditions. International Journal of Engine Research, 2020, 21, 1454-1468.	2.3	11
61	Analysis of acoustic networks including cavities by means of a linear finite volume method. Journal of Sound and Vibration, 2012, 331, 4575-4586.	3.9	10
62	Potential of dual spray injectors for optimising the noise emission of gasoline partially premixed combustion in a 2-stroke HSDI CI engine. Applied Thermal Engineering, 2018, 134, 369-378.	6.0	10
63	Understanding the unsteady pressure field inside combustion chambers of compression-ignited engines using a computational fluid dynamics approach. International Journal of Engine Research, 2020, 21, 1273-1285.	2.3	10
64	A one-dimensional modeling study on the effect of advanced insulation coatings on internal combustion engine efficiency. International Journal of Engine Research, 2021, 22, 2390-2404.	2.3	10
65	Assessment of the improvement of internal combustion engines cooling system using nanofluids and nanoencapsulated phase change materials. International Journal of Engine Research, 2021, 22, 1939-1957.	2.3	9
66	Conjugate heat transfer study of the impact of "thermo-swing"™ coatings on internal combustion engines heat losses. International Journal of Engine Research, 2021, 22, 2958-2967.	2.3	9
67	Improvement in engine thermal management by changing coolant and oil mass. Applied Thermal Engineering, 2022, 212, 118513.	6.0	9
68	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.	2.3	7
69	On the effect of different flux limiters on the performance of an engine gas exchange gas-dynamic model. International Journal of Mechanical Sciences, 2017, 133, 740-751.	6.7	7
70	On the shift of acoustic characteristics of compression-ignited engines when operating with gasoline partially premixed combustion. Applied Thermal Engineering, 2019, 146, 223-231.	6.0	7
71	Investigation of the effects of turbulence modeling on the prediction of compression-ignition combustion unsteadiness. International Journal of Engine Research, 2022, 23, 541-559.	2.3	7
72	Experimental aerothermal characterization of surface air-cooled oil coolers for turbofan engines. International Journal of Heat and Mass Transfer, 2022, 190, 122775.	4.8	7

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73	Experimental Analysis of Cyclical Dispersion in Compression-Ignited Versus Spark-Ignited Engines and Its Significance for Combustion Noise Numerical Modeling. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	1.1	6
74	Development and Validation of a Submodel for Thermal Exchanges in the Hydraulic Circuits of a Global Engine Model. , 2018, , .		6
75	Experimental verification of hydrodynamic similarity in hot flows. Experimental Thermal and Fluid Science, 2020, 119, 110220.	2.7	6
76	On the Influence of Manifold Geometry on Exhaust Noise. , 0, , .		5
77	Measuring turbocharger compressor inlet backflow through particle image velocimetry. Experimental Thermal and Fluid Science, 2018, 99, 420-432.	2.7	5
78	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
79	Validation and Analysis of Heat Losses Prediction Using Conjugate Heat Transfer Simulation for an Internal Combustion Engine. , 0, , .		5
80	A Theoretical and Experimental Study of the Behaviour of Concentric Perforated Duct Automotive Mufflers. , 0, , .		4
81	A Numerical Study of the Behaviour of a Turbocharged Diesel Engine as a Noise Source. , 1997, , .		4
82	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.	1.9	4
83	Acoustic response of fibrous absorbent materials to impulsive transient excitations. Journal of Sound and Vibration, 2010, 329, 880-892.	3.9	4
84	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.	2.0	4
85	Numerical Estimation of Wiebe Function Parameters Using Artificial Neural Networks in SI Engine. , 0, , .		4
86	Description and measurement of the acoustic characteristics of two-tailpipe mufflers. Journal of the Acoustical Society of America, 2006, 119, 723.	1.1	3
87	Application of a zero-dimensional model to assess the effect of swirl on indicated efficiency. International Journal of Engine Research, 2019, 20, 837-848.	2.3	3
88	Impact of simple surge-enhancing inlet geometries on the acoustic behavior of a turbocompressor. International Journal of Engine Research, 2020, 21, 794-800.	2.3	3
89	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.	0.2	3
90	Definition of wind blowers for vehicles testing at chassis-dyno facilities using a CFD approach. Transportation Research, Part D: Transport and Environment, 2017, 55, 99-112.	6.8	2

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91	A Study of the Transient Response of Duct Junctions: Measurements and Gas-Dynamic Modeling with a Staggered Mesh Finite Volume Approach. Applied Sciences (Switzerland), 2017, 7, 480.	2.5	2
92	Analysis of Passenger Car Turbocharged Diesel Engines Performance When Tested at Altitude and of the Altitude Simulator Device Used. , 2018, , .		2
93	A contribution to the diagnosis of internal combustion engines through rolling block oscillations. Insight: Non-Destructive Testing and Condition Monitoring, 2008, 50, 637-641.	0.6	1
94	Methodology of fault detection in internal combustion engines through the analysis of rolling block oscillation. International Journal of Heavy Vehicle Systems, 2009, 16, 294.	0.2	1
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	Assessment of the fluid-dynamic and acoustic behaviour of a swirl static mixer for after-treatment systems. Applied Acoustics, 2022, 186, 108446.	3.3	1
97	Experimental evidence of the Poisson-like effect for flexural waves in thin metallic plates. Applied Physics Letters, 2022, 120, 094102.	3.3	1
98	Acoustic performance of Herschel-Quincke tubes with gradually variable cross-section ducts. Noise Control Engineering Journal, 2009, 57, 16.	0.3	0
99	A Basic Study on Acoustic Response of Non-symmetric Perforated Duct Mufflers. , 2011, , .		0