Andrei N Lipatnikov

List of Publications by Year in descending order

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145 papers 3,253 citations

236612 25 h-index 197535 49 g-index

146 all docs

146 docs citations

146 times ranked 858 citing authors

#	Article	IF	Citations
1	A DNS study of extreme and leading points in lean hydrogen-air turbulent flames – Part I: Local thermochemical structure and reaction rates. Combustion and Flame, 2022, 235, 111716.	2.8	6
2	A DNS study of extreme and leading points in lean hydrogen-air turbulent flames - part II: Local velocity field and flame topology. Combustion and Flame, 2022, 235, 111712.	2.8	8
3	A vented corn starch dust explosion in an 11.5Âm3 vessel: Experimental and numerical study. Journal of Loss Prevention in the Process Industries, 2022, 75, 104707.	1.7	10
4	Lewis number and preferential diffusion effects in lean hydrogen–air highly turbulent flames. Physics of Fluids, 2022, 34, .	1.6	17
5	Flame folding and conditioned concentration profiles in moderately intense turbulence. Physics of Fluids, 2022, 34, .	1.6	6
6	A numerical support of leading point concept. International Journal of Hydrogen Energy, 2022, 47, 23444-23461.	3.8	7
7	Influence of equivalence ratio on turbulent burning velocity and extreme fuel consumption rate in lean hydrogen-air turbulent flames. Fuel, 2022, 327, 124969.	3.4	6
8	Influence of Thermal Expansion on Potential and Rotational Components of Turbulent Velocity Field Within and Upstream of Premixed Flame Brush. Flow, Turbulence and Combustion, 2021, 106, 1111-1124.	1.4	6
9	Assessment of an Evolution Equation for the Displacement Speed of a Constant-Density Reactive Scalar Field. Flow, Turbulence and Combustion, 2021, 106, 1091-1110.	1.4	3
10	Evaluation of mean species mass fractions in premixed turbulent flames: A DNS study. Proceedings of the Combustion Institute, 2021, 38, 6413-6420.	2.4	12
11	Solenoidal and potential velocity fields in weakly turbulent premixed flames. Proceedings of the Combustion Institute, 2021, 38, 3087-3095.	2.4	6
12	Application of Helmholtz-Hodge decomposition and conditioned structure functions to exploring influence of premixed combustion on turbulence upstream of the flame. Proceedings of the Combustion Institute, 2021, 38, 3077-3085.	2.4	7
13	Evolution equations for the decomposed components of displacement speed in a reactive scalar field. Journal of Fluid Mechanics, 2021, 911, .	1.4	10
14	Validation of leading point concept in RANS simulations of highly turbulent lean syngas-air flames with well-pronounced diffusional-thermal effects. International Journal of Hydrogen Energy, 2021, 46, 9222-9233.	3.8	11
15	Dissipation and dilatation rates in premixed turbulent flames. Physics of Fluids, 2021, 33, 035112.	1.6	16
16	Assessment of a flamelet approach to evaluating mean species mass fractions in moderately and highly turbulent premixed flames. Physics of Fluids, 2021, 33, .	1.6	16
17	Prediction of mean radical concentrations in lean hydrogen-air turbulent flames at different Karlovitz numbers adopting a newly extended flamelet-based presumed PDF. Combustion and Flame, 2021, 226, 248-259.	2.8	18
18	Scaling of reaction progress variable variance in highly turbulent reaction waves. Physics of Fluids, 2021, 33, .	1.6	7

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19	Passive Front Propagation in Intense Turbulence: Early Transient and Late Statistically Stationary Stages of the Front Area Evolution. Energies, 2021, 14, 5102.	1.6	1
20	Smallest scale of wrinkles of a Huygens front in extremely strong turbulence. Physical Review E, 2021, 104, 045101.	0.8	0
21	Influence of molecular transport on burning rate and conditioned species concentrations in highly turbulent premixed flames. Journal of Fluid Mechanics, 2021, 928, .	1.4	23
22	A priori DNS study of applicability of flamelet concept to predicting mean concentrations of species in turbulent premixed flames at various Karlovitz numbers. Combustion and Flame, 2020, 222, 370-382.	2.8	22
23	An extended flamelet-based presumed probability density function for predicting mean concentrations of various species in premixed turbulent flames. International Journal of Hydrogen Energy, 2020, 45, 31162-31178.	3.8	13
24	Unsteady 3-D RANS simulations of dust explosion in a fan stirred explosion vessel using an open source code. Journal of Loss Prevention in the Process Industries, 2020, 67, 104237.	1.7	6
25	A New Mathematical Framework for Describing Thin-Reaction-Zone Regime of Turbulent Reacting Flows at Low Damköhler Number. Fluids, 2020, 5, 109.	0.8	4
26	Bifractal nature of turbulent reaction waves at high Damk $\tilde{A}\P$ hler and Karlovitz numbers. Physics of Fluids, 2020, 32, .	1.6	7
27	Numerical Simulations of Turbulent Combustion. Fluids, 2020, 5, 22.	0.8	1
28	Surface-averaged quantities in turbulent reacting flows and relevant evolution equations. Physical Review E, 2019, 100, 013107.	0.8	8
29	A direct numerical simulation study of the influence of flame-generated vorticity on reaction-zone-surface area in weakly turbulent premixed combustion. Physics of Fluids, 2019, 31, .	1.6	24
30	Assessment of a transport equation for mean reaction rate using DNS data obtained from highly unsteady premixed turbulent flames. International Journal of Heat and Mass Transfer, 2019, 134, 398-404.	2.5	10
31	Evolution of averaged local premixed flame thickness in a turbulent flow. Combustion and Flame, 2019, 207, 232-249.	2.8	17
32	Thin reaction zones in highly turbulent medium. International Journal of Heat and Mass Transfer, 2019, 128, 1201-1205.	2.5	15
33	Thin reaction zones in constant-density turbulent flows at low Damk $\tilde{A}\P$ hler numbers: Theory and simulations. Physics of Fluids, 2019, 31, 055104.	1.6	30
34	Closure Relations for Fluxes of Flame Surface Density and Scalar Dissipation Rate in Turbulent Premixed Flames. Fluids, 2019, 4, 43.	0.8	8
35	Statistics conditioned to isoscalar surfaces in highly turbulent premixed reacting systems. Computers and Fluids, 2019, 187, 69-82.	1.3	7
36	Investigation of the influence of combustion-induced thermal expansion on two-point turbulence statistics using conditioned structure functions. Journal of Fluid Mechanics, 2019, 867, 45-76.	1.4	18

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37	DNS Study of the Bending Effect Due to Smoothing Mechanism. Fluids, 2019, 4, 31.	0.8	7
38	Statistical behaviors of conditioned two-point second-order structure functions in turbulent premixed flames in different combustion regimes. Physics of Fluids, 2019, 31, .	1.6	19
39	A DNS Study of Sensitivity of Scaling Exponents for Premixed Turbulent Consumption Velocity to Transient Effects. Flow, Turbulence and Combustion, 2019, 102, 679-698.	1.4	8
40	A DNS assessment of linear relations between filtered reaction rate, flame surface density, and scalar dissipation rate in a weakly turbulent premixed flame. Combustion Theory and Modelling, 2019, 23, 245-260.	1.0	10
41	Application of conditioned structure functions to exploring influence of premixed combustion on two-point turbulence statistics. Proceedings of the Combustion Institute, 2019, 37, 2433-2441.	2.4	15
42	RANS Simulations of Premixed Turbulent Flames. Energy, Environment, and Sustainability, 2018, , 181-240.	0.6	1
43	LC/MS at the whole protein level: Studies of biomolecular structure and interactions using native LC/MS and cross-path reactive chromatography (XP-RC) MS. Methods, 2018, 144, 14-26.	1.9	18
44	A DNS study of the physical mechanisms associated with density ratio influence on turbulent burning velocity in premixed flames. Combustion Theory and Modelling, 2018, 22, 131-155.	1.0	22
45	A DNS Study of Closure Relations for Convection Flux Term in Transport Equation for Mean Reaction Rate in Turbulent Flow. Flow, Turbulence and Combustion, 2018, 100, 75-92.	1.4	16
46	Transport equations for reaction rate in laminar and turbulent premixed flames characterized by non-unity Lewis number. International Journal of Hydrogen Energy, 2018, 43, 21060-21069.	3.8	18
47	Letter: Does flame-generated vorticity increase turbulent burning velocity?. Physics of Fluids, 2018, 30,	1.6	23
48	Combustion-induced local shear layers within premixed flamelets in weakly turbulent flows. Physics of Fluids, 2018, 30, 085101.	1.6	18
49	Recent Advances in Understanding of Thermal Expansion Effects in Premixed Turbulent Flames. Annual Review of Fluid Mechanics, 2017, 49, 91-117.	10.8	74
50	Statistical behaviour of vorticity and enstrophy transport in head-on quenching of turbulent premixed flames. European Journal of Mechanics, B/Fluids, 2017, 65, 384-397.	1.2	23
51	A balance equation for the mean rate of product creation in premixed turbulent flames. Proceedings of the Combustion Institute, 2017, 36, 1893-1901.	2.4	30
52	Stratified turbulent flames: Recent advances in understanding the influence of mixture inhomogeneities on premixed combustion and modeling challenges. Progress in Energy and Combustion Science, 2017, 62, 87-132.	15.8	88
53	DNS study of dependence of bulk consumption velocity in a constant-density reacting flow on turbulence and mixture characteristics. Physics of Fluids, 2017, 29, .	1.6	35
54	Turbulent diffusion of chemically reacting flows: Theory and numerical simulations. Physical Review E, 2017, 96, 053111.	0.8	20

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55	Does Density Ratio Significantly Affect Turbulent Flame Speed?. Flow, Turbulence and Combustion, 2017, 98, 1153-1172.	1.4	19
56	Direct numerical simulation study of statistically stationary propagation of a reaction wave in homogeneous turbulence. Physical Review E, 2017, 95, 063101.	0.8	33
57	Flamelet perturbations and flame surface density transport in weakly turbulent premixed combustion. Combustion Theory and Modelling, 2017, 21, 205-227.	1.0	19
58	Does sensitivity of measured scaling exponents for turbulent burning velocity to flame configuration prove lack of generality of notion of turbulent burning velocity?. Combustion and Flame, 2016, 173, 77-88.	2.8	14
59	Analytical and numerical study of travelling waves using the Maxwell-Cattaneo relaxation model extended to reaction-advection-diffusion systems. Physical Review E, 2016, 94, 042218.	0.8	7
60	A transport equation for reaction rate in turbulent flows. Physics of Fluids, 2016, 28, 081701.	1.6	22
61	Application of Flame Speed Closure Model to RANS Simulations of Stratified Turbulent Combustion in a Gasoline Direct-Injection Spark-Ignition Engine. Combustion Science and Technology, 2016, 188, 98-131.	1.2	11
62	Effects of Lewis number on vorticity and enstrophy transport in turbulent premixed flames. Physics of Fluids, 2016, 28, .	1.6	54
63	DNS assessment of relation between mean reaction and scalar dissipation rates in the flamelet regime of premixed turbulent combustion. Combustion Theory and Modelling, 2015, 19, 309-328.	1.0	22
64	Correlations of high-pressure lean methane and syngas turbulent burning velocities: Effects of turbulent Reynolds, Damk \tilde{A} ¶hler, and Karlovitz numbers. Proceedings of the Combustion Institute, 2015, 35, 1509-1516.	2.4	48
65	Unburned mixture fingers in premixed turbulent flames. Proceedings of the Combustion Institute, 2015, 35, 1401-1408.	2.4	58
66	DNS Assessment of a Simple Model for Evaluating Velocity Conditioned to Unburned Gas in Premixed Turbulent Flames. Flow, Turbulence and Combustion, 2015, 94, 513-526.	1.4	23
67	Modeling of the Influence of Mixture Fraction Fluctuations on Burning Rate in Partially Premixed Turbulent Flames. Combustion Science and Technology, 2015, 187, 594-626.	1.2	4
68	RANS Simulations of Statistically Stationary Premixed Turbulent Combustion Using Flame Speed Closure Model. Flow, Turbulence and Combustion, 2015, 94, 381-414.	1.4	11
69	Transition from pulled to pushed fronts in premixed turbulent combustion: Theoretical and numerical study. Combustion and Flame, 2015, 162, 2893-2903.	2.8	28
70	Experimental assessment of various methods of determination of laminar flame speed in experiments with expanding spherical flames with positive Markstein lengths. Combustion and Flame, 2015, 162, 2840-2854.	2.8	33
71	Numerical and Experimental Study of Stratified Turbulent Combustion in a Spray-Guided Gasoline Direct Injection Engine. Lecture Notes in Mobility, 2015, , 77-84.	0.2	0
72	A direct numerical simulation study of interface propagation in homogeneous turbulence. Journal of Fluid Mechanics, 2015, 772, 127-164.	1.4	33

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73	A balance equation for modeling conditioned enthalpies in premixed turbulent flames. Combustion and Flame, 2015, 162, 3691-3703.	2.8	O
74	A Study of Two Basic Issues Relevant to RANS Simulations of Stratified Turbulent Combustion in a Spray-Guided Direct-Injection Spark-Ignition Engine. , 2014, , .		2
75	A Numerical Study on Stratified Turbulent Combustion in a Direct-Injection Spark-Ignition Gasoline Engine Using an Open-Source Code. , 2014, , .		6
76	Three-dimensional direct numerical simulation study of conditioned moments associated with front propagation in turbulent flows. Physics of Fluids, 2014, 26, .	1.6	19
77	A direct numerical simulation study of vorticity transformation in weakly turbulent premixed flames. Physics of Fluids, 2014, 26, .	1.6	63
78	Speed selection for traveling-wave solutions to the diffusion-reaction equation with cubic reaction term and Burgers nonlinear convection. Physical Review E, 2014, 90, 033004.	0.8	13
79	Conditional velocity statistics for high and low Damköhler number turbulent premixed combustion in the context of Reynolds Averaged Navier Stokes simulations. Proceedings of the Combustion Institute, 2013, 34, 1333-1345.	2.4	15
80	Effects of Lewis number on conditional fluid velocity statistics in low Damk \tilde{A} q hler number turbulent premixed combustion: A direct numerical simulation analysis. Physics of Fluids, 2013, 25, 045101.	1.6	25
81	Transition from Countergradient to Gradient Scalar Transport in Developing Premixed TurbulentÂFlames. Flow, Turbulence and Combustion, 2013, 90, 401-418.	1.4	7
82	Towards an Extension of TFC Model of Premixed Turbulent Combustion. Flow, Turbulence and Combustion, 2013, 90, 387-400.	1.4	8
83	Transition from pulled to pushed premixed turbulent flames dueÂtoÂcountergradient transport. Combustion Theory and Modelling, 2013, 17, 1154-1175.	1.0	26
84	Comparison of Presumed PDF Models of Turbulent Flames. Journal of Combustion, 2012, 2012, 1-15.	0.5	4
85	Premixed Turbulent Flames. Journal of Combustion, 2011, 2011, 1-2.	0.5	0
86	Statistics of Conditional Fluid Velocity in the Corrugated Flamelets Regime of Turbulent Premixed Combustion: A Direct Numerical Simulation Study. Journal of Combustion, 2011, 2011, 1-13.	0.5	4
87	Burning Rate in Impinging Jet Flames. Journal of Combustion, 2011, 2011, 1-11.	0.5	2
88	Modelling of Gasoline and Ethanol Hollow-Cone Sprays Using OpenFOAM., 2011,,.		11
89	A Simple Model for Evaluating Conditioned Velocities in Premixed Turbulent Flames. Combustion Science and Technology, 2011, 183, 588-613.	1.2	18
90	Reply to comments by Zimont. Combustion and Flame, 2011, 158, 2073-2074.	2.8	0

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91	Transient Behavior of Turbulent Scalar Transport in Premixed Flames. Flow, Turbulence and Combustion, 2011, 86, 609-637.	1.4	12
92	Conditioned moments in premixed turbulent reacting flows. Proceedings of the Combustion Institute, 2011, 33, 1489-1496.	2.4	14
93	A test of conditioned balance equation approach. Proceedings of the Combustion Institute, 2011, 33, 1497-1504.	2.4	13
94	Simulations of Scalar Transport in Developing Turbulent Flames Solving a Conditioned Balance Equation. Combustion Science and Technology, 2010, 182, 405-421.	1.2	2
95	Rigorous Derivation of an Unclosed Mean G-Equation for Statistically 1D Premixed Turbulent Flames. International Journal of Spray and Combustion Dynamics, 2010, 2, 301-323.	0.4	9
96	Effects of premixed flames on turbulence and turbulent scalar transport. Progress in Energy and Combustion Science, 2010, 36, 1-102.	15.8	177
97	Can we characterize turbulence in premixed flames?. Combustion and Flame, 2009, 156, 1242-1247.	2.8	14
98	Testing Premixed Turbulent Combustion Models by Studying Flame Dynamics. International Journal of Spray and Combustion Dynamics, 2009, 1, 39-66.	0.4	14
99	Conditionally averaged balance equations for modeling premixed turbulent combustion in flamelet regime. Combustion and Flame, 2008, 152, 529-547.	2.8	35
100	Some Basic Issues of the Averaged G-Equation Approach to Premixed Turbulent Combustion Modeling. The Open Thermodynamics Journal, 2008, 2, 53-58.	0.6	5
101	EFFECTS OF TURBULENT FLAME SPEED DEVELOPMENT AND AXIAL CONVECTIVE WAVES ON OSCILLATIONS OF A LONG DUCTED FLAME. Combustion Science and Technology, 2007, 179, 1433-1449.	1.2	3
102	SCALAR TRANSPORT IN SELF-SIMILAR, DEVELOPING, PREMIXED, TURBULENT FLAMES. Combustion Science and Technology, 2007, 179, 91-115.	1.2	8
103	Global stretch effects in premixed turbulent combustion. Proceedings of the Combustion Institute, 2007, 31, 1361-1368.	2.4	35
104	Effects of flame development on stationary premixed turbulent combustion. Proceedings of the Combustion Institute, 2007, 31, 3115-3122.	2.4	11
105	NUMERICAL TESTS OF A MEASUREMENT METHOD FOR TURBULENT BURNING VELOCITY IN STAGNATION FLAMES. Combustion Science and Technology, 2006, 178, 1117-1141.	1.2	3
106	Numerical Modeling of Stationary But Developing Premixed Turbulent Flames. , 2006, , 691.		0
107	A theoretical study of premixed turbulent flame development. Proceedings of the Combustion Institute, 2005, 30, 843-850.	2.4	24
108	Molecular transport effects on turbulent flame propagation and structure. Progress in Energy and Combustion Science, 2005, 31, 1-73.	15.8	294

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109	Effects of turbulent flame development on thermoacoustic oscillations. Combustion and Flame, 2005, 142, 130-139.	2.8	20
110	Modeling of Turbulent Scalar Transport in Expanding Spherical Flames. , 2005, , .		0
111	Self-similarly developing, premixed, turbulent flames: A theoretical study. Physics of Fluids, 2005, 17, 065105.	1.6	26
112	APPLICATION OF THE MARKSTEIN NUMBER CONCEPT TO CURVED TURBULENT FLAMES. Combustion Science and Technology, 2004, 176, 331-358.	1.2	25
113	A study of the effects of pressure-driven transport on developing turbulent flame structure and propagation. Combustion Theory and Modelling, 2004, 8, 211-225.	1.0	11
114	Comment on "Turbulent burning velocity, burned gas distribution, and associated flame surface definition― Combustion and Flame, 2004, 137, 261-263.	2.8	11
115	Flame Speed Closure Model of Premixed Turbulent Combustion: Further Development and Validation (S.I. Engines, Flame Propagation). The Proceedings of the International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines, 2004, 2004.6, 583-590.	0.1	4
116	Effects of Flame Development and Structure on Thermo-Acoustic Oscillations of Premixed Turbulent Flames(S.I. Engines, Flame Propagation). The Proceedings of the International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines, 2004, 2004.6, 599-606.	0.1	0
117	A Numerical Study of Weakly Turbulent Premixed Combustion with Flame Speed Closure Model. , 2003, , .		2
118	Are premixed turbulent stagnation flames equivalent to fully developed ones? A computational study. Combustion Science and Technology, 2002, 174, 3-26.	1.2	16
119	TRANSIENT AND CURVATURE EFFECTS WHEN DEFINING BURNING VELOCITY AND SPEED OF PREMIXED TURBULENT FLAMES. , 2002, , 853-862.		0
120	Simulations of Fuel/Air Mixing, Combustion, and Pollutant Formation in a Direct Injection Gasoline Engine., 2002,,.		8
121	Modeling of stratified combustion in a direct-ignition, spark-ignition engine accounting for complex chemistry. Proceedings of the Combustion Institute, 2002, 29, 703-709.	2.4	24
122	Turbulent burning velocity and speed of developing, curved, and strained flames. Proceedings of the Combustion Institute, 2002, 29, 2113-2121.	2.4	32
123	Turbulent flame speed and thickness: phenomenology, evaluation, and application in multi-dimensional simulations. Progress in Energy and Combustion Science, 2002, 28, 1-74.	15.8	473
124	Comments on: "Premixed flames in stagnating turbulence part Vâ€"evaluation of models for the chemical source term―by K. N. C. Bray, M. Champion, and P. A. Libby. Combustion and Flame, 2002, 131, 219-221.	2.8	5
125	Developing Premixed Turbulent Flames: Part I. A Self-Similar Regime of Flame Propagation. Combustion Science and Technology, 2001, 162, 85-112.	1.2	22
126	Developing Premixed Turbulent Flames: Part II. Pressure-Driven Transport and Turbulent Diffusion. Combustion Science and Technology, 2001, 165, 175-195.	1.2	10

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127	A Method for Evaluating Fully Developed Turbulent Flame Speed. , 2001, , .		O
128	(2-10) Towards Evaluation of Turbulent Flame Speed((SI-4)S. I. Engine Combustion 4-Flame Propagation). The Proceedings of the International Symposium on Diagnostics and Modeling of Combustion in Internal Combustion Engines, 2001, 01.204, 31.	0.1	0
129	Dependence of heat release on the progress variable in premixed turbulent combustion. Proceedings of the Combustion Institute, 2000, 28, 227-234.	2.4	17
130	Modeling of Pressure and Non-Stationary Effects in Spark Ignition Engine Combustion: A Comparison of Different Approaches. , 2000, , .		4
131	Transient and Geometrical Effects in Expanding Turbulent Flames. Combustion Science and Technology, 2000, 154, 75-117.	1.2	37
132	Lewis Number Effects in Premixed Turbulent Combustion and Highly Perturbed Laminar Flames. Combustion Science and Technology, 1998, 137, 277-298.	1.2	36
133	Randomness of Flame Kernel Development in Turbulent Gas Mixture. , 1998, , .		2
134	A Simple Model of Unsteady Turbulent Flame Propagation. , 1997, , .		31
135	Finding the markstein number using the measurements of expanding spherical laminar flames. Combustion and Flame, 1997, 109, 436-448.	2.8	73
136	A test of an engineering model of premixed turbulent combustion. Proceedings of the Combustion Institute, 1996, 26, 249-257.	0.3	71
137	Some Issues of Using Markstein Number for Modeling Premixed Turbulent Combustion. Combustion Science and Technology, 1996, 119, 131-154.	1.2	23
138	Numerical modeling of nitrogen oxide formation in turbulent combustion of a premixed gas mixture. Combustion, Explosion and Shock Waves, 1993, 29, 326-330.	0.3	0
139	Nitrogen oxide formation in a flame at slight deviations from equilibrium. Combustion, Explosion and Shock Waves, 1989, 24, 407-409.	0.3	0
140	Taking account of heat losses in modeling the turbulent combustion of a preliminarily mixed mixture. Combustion, Explosion and Shock Waves, 1988, 24, 290-293.	0.3	0
141	Turbulent Flame Speed Closure Model: Further Development and Implementation for 3-D Simulation of Combustion in SI Engine. , 0, , .		8
142	Chemical Model of Gasoline-Ethanol Blends for Internal Combustion Engine Applications. , 0, , .		19
143	Large Eddy Simulation of Stratified Combustion in Spray-guided Direct Injection Spark-ignition Engine. , 0, , .		2
144	Fundamentals of Premixed Turbulent Combustion., 0,,.		70

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#	Article	IF	CITATIONS
145	Conditioned structure functions in turbulent hydrogen/air flames . Physics of Fluids, 0, , .	1.6	5