

David Frost

List of Publications by Year in descending order

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89
papers

1,862
citations

257450

24
h-index

276875

41
g-index

93
all docs

93
docs citations

93
times ranked

1121
citing authors

#	ARTICLE	IF	CITATIONS
1	Metal-water combustion for clean propulsion and power generation. <i>Applied Energy</i> , 2017, 186, 13-27.	10.1	116
2	Enhanced hydrogen generation from aluminum-water reactions. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 14992-15002.	7.1	103
3	Freely-propagating flames in aluminum dust clouds. <i>Combustion and Flame</i> , 2015, 162, 4241-4253.	5.2	103
4	A comparison of the ballistic performance of shear thickening fluids based on particle strength and volume fraction. <i>International Journal of Impact Engineering</i> , 2015, 85, 83-96.	5.0	79
5	Dynamics of explosive boiling of a droplet. <i>Physics of Fluids</i> , 1988, 31, 2554-2561.	1.4	71
6	Comparative reactivity of industrial metal powders with water for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 1026-1036.	7.1	68
7	Particle momentum effects from the detonation of heterogeneous explosives. <i>Journal of Applied Physics</i> , 2007, 101, 113529.	2.5	67
8	Flame structure and particle-combustion regimes in premixed methane-iron-air suspensions. <i>Proceedings of the Combustion Institute</i> , 2015, 35, 2431-2438.	3.9	66
9	Optical Pyrometry of Fireballs of Metalized Explosives. <i>Propellants, Explosives, Pyrotechnics</i> , 2006, 31, 169-181.	1.6	64
10	Fragmentation mechanisms based on single drop steam explosion experiments using flash X-ray radiography. <i>Nuclear Engineering and Design</i> , 1994, 146, 109-132.	1.7	57
11	Combustion of Aluminum Suspensions in Hydrocarbon Flame Products. <i>Journal of Propulsion and Power</i> , 2014, 30, 1047-1054.	2.2	53
12	The effect of particle strength on the ballistic resistance of shear thickening fluids. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	52
13	Stabilized flames in hybrid aluminum-methane-air mixtures. <i>Proceedings of the Combustion Institute</i> , 2013, 34, 2213-2220.	3.9	48
14	Effect of scale on freely propagating flames in aluminum dust clouds. <i>Journal of Loss Prevention in the Process Industries</i> , 2015, 36, 230-236.	3.3	48
15	Emission and laser absorption spectroscopy of flat flames in aluminum suspensions. <i>Combustion and Flame</i> , 2017, 180, 230-238.	5.2	43
16	The elastic-plastic behaviour of foam under shock loading. <i>Shock Waves</i> , 2013, 23, 55-67.	1.9	39
17	Flame speed measurements in aluminum suspensions using a counterflow burner. <i>Proceedings of the Combustion Institute</i> , 2017, 36, 2291-2298.	3.9	39
18	Stabilized, flat iron flames on a hot counterflow burner. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 3185-3191.	3.9	37

#	ARTICLE	IF	CITATIONS
19	Heterogeneous/particle-laden blast waves. <i>Shock Waves</i> , 2018, 28, 439-449.	1.9	34
20	Reaction of a Particle Suspension in a Rapidly Heated Oxidizing Gas. <i>Propellants, Explosives, Pyrotechnics</i> , 2015, 40, 604-612.	1.6	31
21	Experimental investigation of blast mitigation and particle-blast interaction during the explosive dispersal of particles and liquids. <i>Shock Waves</i> , 2018, 28, 489-511.	1.9	31
22	Quenching distance of flames in hybrid methane-aluminum mixtures. <i>Proceedings of the Combustion Institute</i> , 2015, 35, 2463-2470.	3.9	26
23	The use of Hugoniot analysis for the propagation of vapor explosion waves. <i>Shock Waves</i> , 1991, 1, 99-110.	1.9	24
24	Propagation of nitromethane detonations in porous media. <i>Shock Waves</i> , 1995, 5, 115-119.	1.9	22
25	In-situ measurements of the onset of bulk exothermicity in shock initiation of reactive powder mixtures. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	22
26	Effect of diethylenetriamine sensitization on detonation of nitromethane in porous media. <i>Combustion and Flame</i> , 1995, 100, 292-300.	5.2	19
27	Blast wave attenuation through a composite of varying layer distribution. <i>Shock Waves</i> , 2011, 21, 215-224.	1.9	19
28	Preignition characteristics of nano- and micrometer-scale aluminum particles in Al-CO ₂ oxidation systems. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 1913-1919.	3.9	18
29	Mechanical properties of chromium-chromium sulfide cermets fabricated by self-propagating high-temperature synthesis. <i>Journal of Materials Science</i> , 2015, 50, 3434-3446.	3.7	18
30	Thermal structure and burning velocity of flames in non-volatile fuel suspensions. <i>Proceedings of the Combustion Institute</i> , 2017, 36, 2351-2358.	3.9	18
31	Numerical investigation of particle-blast interaction during explosive dispersal of liquids and granular materials. <i>Shock Waves</i> , 2018, 28, 513-531.	1.9	18
32	Terminal velocity of liquids and granular materials dispersed by a high explosive. <i>Shock Waves</i> , 2018, 28, 473-487.	1.9	18
33	Development of a Novel Biodegradable Metallic Stent Based on Microgalvanic Effect. <i>Annals of Biomedical Engineering</i> , 2016, 44, 404-418.	2.5	17
34	The use of supercritical water for the catalyst-free oxidation of coarse aluminum for hydrogen production. <i>Sustainable Energy and Fuels</i> , 2020, 4, 5628-5635.	4.9	17
35	Explosive fragmentation of liquids in spherical geometry. <i>Shock Waves</i> , 2017, 27, 383-393.	1.9	15
36	Two-dimensional autocorrelation function analysis of smoked foil patterns. <i>Shock Waves</i> , 1995, 5, 169-174.	1.9	14

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37	Hydrogen production rates of aluminum reacting with varying densities of supercritical water. RSC Advances, 2022, 12, 12335-12343.	3.6	14
38	Simplified modeling of blast waves from metalized heterogeneous explosives. Shock Waves, 2011, 21, 425-438.	1.9	13
39	Propagation of isobaric spherical flames in hybrid aluminum-methane fuel mixtures. Journal of Loss Prevention in the Process Industries, 2017, 49, 472-480.	3.3	13
40	Formation of a disordered solid via a shock-induced transition in a dense particle suspension. Physical Review E, 2012, 85, 021401.	2.1	12
41	Effect of boundary conditions on the propagation of a vapor explosion in stratified molten tin/water systems. Nuclear Engineering and Design, 1995, 155, 311-333.	1.7	11
42	Numerical modelling of the entrainment of particles in inviscid supersonic flow. Shock Waves, 2011, 21, 341-355.	1.9	11
43	Thermocouple Temperature Measurements in Metalized Explosive Fireballs. Propellants, Explosives, Pyrotechnics, 2021, 46, 899-911.	1.6	11
44	Initiation of explosive boiling of a droplet with a shock wave. Experiments in Fluids, 1989, 8, 121-128.	2.4	10
45	Critical Conditions for Ignition of Aluminum Particles in Cylindrical Explosive Charges. AIP Conference Proceedings, 2006, , .	0.4	10
46	A novel method for net-shape manufacturing of metal-metal sulfide cermets. Journal of Materials Science, 2014, 49, 8095-8106.	3.7	10
47	Shock Hugoniot measurements in foam. Journal of Physics: Conference Series, 2014, 500, 112050.	0.4	10
48	Measurement of Particle Density During Explosive Particle Dispersal. Propellants, Explosives, Pyrotechnics, 2016, 41, 245-253.	1.6	10
49	The propulsive capability of explosives heavily loaded with inert materials. Shock Waves, 2018, 28, 709-741.	1.9	10
50	Light emission signatures from ballistic impact of reactive metal projectiles. International Journal of Impact Engineering, 2021, 150, 103814.	5.0	10
51	Particle segregation during explosive dispersal of binary particle mixtures. AIP Conference Proceedings, 2017, , .	0.4	9
52	Blast enhancement from metalized explosives. Shock Waves, 2021, 31, 203-230.	1.9	8
53	Fracture of explosively compacted aluminum particles in a cylinder. AIP Conference Proceedings, 2017, , .	0.4	7
54	Effect of particle coating on the thermal response of mixtures of micro- and nano-aluminum particles with water. Journal of Thermal Analysis and Calorimetry, 2017, 127, 1027-1036.	3.6	6

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55	On the Relationship between Shock and Thermal Initiating Conditions for Various Reactive Powder Mixtures. Propellants, Explosives, Pyrotechnics, 2012, 37, 345-358.	1.6	5
56	Lateral stress measurements in dense suspensions. AIP Conference Proceedings, 2012, , .	0.4	5
57	Effect of an inhibitor on high-speed turbulent flames and the transition to detonation. Shock Waves, 1996, 5, 305-309.	1.9	4
58	Development of instabilities in explosively dispersed particles. , 2012, , .		4
59	Shock-induced deformation in wetted particle beds. Journal of Physics: Conference Series, 2014, 500, 112044.	0.4	4
60	Ballistic Response of Chromium/Chromium-Sulfide Cermets. Journal of Dynamic Behavior of Materials, 2015, 1, 347-358.	1.7	4
61	Comments on: "Combustion of nano-sized aluminum particles in steam: Numerical modeling" by V.B. Storozhev and A.N. Yermakov. Combustion and Flame, 2016, 171, 262-263.	5.2	4
62	Blast wave mitigation in granular materials. AIP Conference Proceedings, 2018, , .	0.4	4
63	Hydrogen production via reaction of metals with supercritical water. Sustainable Energy and Fuels, 2022, 6, 3394-3401.	4.9	4
64	Numerical computation of underwater explosions due to Fuel-coolant interactions. Nuclear Engineering and Design, 1994, 146, 165-179.	1.7	3
65	Front curvature analysis and detonation shock dynamics calibration for pure and sensitized nitromethane. AIP Conference Proceedings, 2000, , .	0.4	3
66	Development of multi-component explosive lenses for arbitrary phase velocity generation. Journal of Physics: Conference Series, 2014, 500, 192010.	0.4	3
67	Acceleration of plates using non-conventional explosives heavily-loaded with inert materials. Journal of Physics: Conference Series, 2014, 500, 182027.	0.4	3
68	Near-Field Impulse Effects From Detonation of Heterogeneous Explosives. AIP Conference Proceedings, 2002, , .	0.4	2
69	Shock initiation of powder mixtures of aluminum with dense metal oxides. AIP Conference Proceedings, 2012, , .	0.4	2
70	Shock-induced formation of a disordered solid from a dense particle suspension. , 2012, , .		2
71	TIME-RESOLVED TEMPERATURE MEASUREMENTS OF SHOCK INITIATION IN HETEROGENEOUS EXOTHERMIC MIXTURES. , 2009, , .		1
72	EFFECT OF PARTICLE MORPHOLOGY ON CRITICAL CONDITIONS FOR SHOCK-INITIATED REACTIONS IN TITANIUM-SILICON POWDER MIXTURES. AIP Conference Proceedings, 2009, , .	0.4	1

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73	Degradation Behavior of Nanostructured Stent Materials Using Cold Spray. , 2013, , .		1
74	Explosive formation of coherent particle jets. Journal of Physics: Conference Series, 2014, 500, 112026.	0.4	1
75	The effect of detonation wave incidence angle on the acceleration of flyers by explosives heavily laden with inert additives. AIP Conference Proceedings, 2017, , .	0.4	1
76	Suppression of jet formation during explosive dispersal of concentric particle layers. AIP Conference Proceedings, 2018, , .	0.4	1
77	Scaling of the propulsive capability of aluminized gelled nitromethane. AIP Conference Proceedings, 2018, , .	0.4	1
78	REACTION OF TITANIUM AND ZIRCONIUM PARTICLES IN CYLINDRICAL EXPLOSIVE CHARGES. , 2008, , .		1
79	EFFECT OF PARTICLE MORPHOLOGY ON THE REACTIVITY OF EXPLOSIVELY DISPERSED TITANIUM PARTICLES. , 2009, , .		0
80	Experimental technique for direct observation of onset of reaction in shocked powder mixtures. , 2012, , .		0
81	Development of a Metallic Biodegradable Stent Based on Microgalvanic Corrosion1. Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	0
82	Lateral stress evolution in Chromium Sulfide. Journal of Physics: Conference Series, 2014, 500, 182031.	0.4	0
83	Lateral stress evolution in chromium sulfide cermets with varying excess chromium. Journal of Applied Physics, 2016, 119, 134903.	2.5	0
84	Visualization of stress propagation in dynamically compacted wetted particle beds. AIP Conference Proceedings, 2017, , .	0.4	0
85	Non-Gurney scaling of explosives heavily loaded with dense inert additives. , 2018, , .		0
86	Simulating the propulsive capability of explosives loaded with inert and reactive materials. AIP Conference Proceedings, 2020, , .	0.4	0
87	Triboluminescent sensor for detection of impacts of submillimeter explosion fragments. AIP Conference Proceedings, 2020, , .	0.4	0
88	Reaction initiation of metal spheres upon ballistic impact with an anvil. AIP Conference Proceedings, 2020, , .	0.4	0
89	Effect of an inhibitor on high-speed turbulent flames and the transition to detonation. Shock Waves, 1996, 5, 305-309.	1.9	0