Stephen B Pope

List of Publications by Year in Descending Order

163	18,369	57	134
papers	citations	h-index	g-index
167	20,344	4.1	7.36
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
163	Filtered Density Function Simulations of a Near-Limit Turbulent Lean Premixed Flame. *Journal of Propulsion and Power*, **2020**, 36, 381-399	1.8	7
162	A combined PPAC-RCCE-ISAT methodology for efficient implementation of combustion chemistry. *Combustion Theory and Modelling*, **2019**, 23, 1021-1053	1.5	2
161	A LES/PDF simulator on block-structured meshes. *Combustion Theory and Modelling*, **2019**, 23, 1-41	1.5	11
160	Large eddy simulation/probability density function simulations of the Cambridge turbulent stratified flame series. *Combustion and Flame*, **2019**, 199, 24-45	5.3	29
159	A Simple Approach for Specifying Velocity Inflow Boundary Conditions in Simulations of Turbulent Opposed-Jet Flows. *Flow, Turbulence and Combustion*, **2017**, 98, 131-153	2.5	4
158	Effects of molecular transport in LES/PDF of piloted turbulent dimethyl ether/air jet flames. *Combustion and Flame*, **2017**, 176, 451-461	5.3	20
157	Characterization of extinction/reignition events in turbulent premixed counterflow flames using strain-rate analysis. *Proceedings of the Combustion Institute*, **2017**, 36, 1919-1927	5.9	8
156	An a priori DNS study of the shadow-position mixing model. *Combustion and Flame*, **2016**, 165, 223-245	5.3	6
155	LES/PDF for premixed combustion in the DNS limit. *Combustion Theory and Modelling*, **2016**, 20, 834-865	1.5	19
154	An investigation of turbulent premixed counterflow flames using large-eddy simulations and probability density function methods. *Combustion and Flame*, **2016**, 166, 229-242	5.3	29
153	An analysis of the structure of an n-dodecane spray flame using TPDF modelling. *Combustion and Flame*, **2016**, 168, 420-435	5.3	65
152	A pre-partitioned adaptive chemistry methodology for the efficient implementation of combustion chemistry in particle PDF methods. *Combustion and Flame*, **2015**, 162, 3236-3253	5.3	23
151	Specific volume coupling and convergence properties in hybrid particle/finite volume algorithms for turbulent reactive flows. *Journal of Computational Physics*, **2015**, 294, 110-126	4.1	26
150	Ten Chapters in Turbulence. *AIAA Journal*, **2014**, 52, 666-667	2.1	
149	Guidelines for the formulation of Lagrangian stochastic models for particle simulations of single-phase and dispersed two-phase turbulent flows. *Physics of Fluids*, **2014**, 26, 113303	4.4	59
148	Large eddy simulation/probability density function simulations of bluff body stabilized flames. *Combustion and Flame*, **2014**, 161, 3100-3133	5.3	25
147	Effects of combined dimension reduction and tabulation on the simulations of a turbulent premixed flame using a large-eddy simulation/probability density function method. *Combustion Theory and Modelling*, **2014**, 18, 388-413	1.5	47

146	Implicit and explicit schemes for mass consistency preservation in hybrid particle/finite-volume algorithms for turbulent reactive flows. *Journal of Computational Physics*, **2014**, 257, 352-373	4.1	13
145	The determination of turbulence-model statistics from the velocity⊠acceleration correlation. *Journal of Fluid Mechanics*, **2014**, 757,	3.7	5
144	Computational study of lean premixed turbulent flames using RANSPDF and LESPDF methods. *Combustion Theory and Modelling*, **2013**, 17, 610-656	1.5	45
143	A model for turbulent mixing based on shadow-position conditioning. *Physics of Fluids*, **2013**, 25, 110803	4.4	44
142	Empirical low-dimensional manifolds in composition space. *Combustion and Flame*, **2013**, 160, 1967-1980	5.3	24
141	An investigation of mixing in a three-stream turbulent jet. *Physics of Fluids*, **2013**, 25, 105105	4.4	19
140	Small scales, many species and the manifold challenges of turbulent combustion. *Proceedings of the Combustion Institute*, **2013**, 34, 1-31	5.9	205
139	Simulations of a turbulent non-premixed flame using combined dimension reduction and tabulation for combustion chemistry. *Fuel*, **2013**, 105, 636-644	7.1	25
138	A novel transient turbulent jet flame for studying turbulent combustion. *Proceedings of the Combustion Institute*, **2013**, 34, 1251-1259	5.9	20
137	Large-scale parallel simulations of turbulent combustion using combined dimension reduction and tabulation of chemistry. *Proceedings of the Combustion Institute*, **2013**, 34, 205-215	5.9	36
136	A study of the rate-controlled constrained-equilibrium dimension reduction method and its different implementations. *Combustion Theory and Modelling*, **2013**, 17, 260-293	1.5	24
135	Large-eddy simulation/probability density function modeling of a non-premixed CO/H2 temporally evolving jet flame. *Proceedings of the Combustion Institute*, **2013**, 34, 1241-1249	5.9	58
134	The Direct Richardson pth Order (DRp) Schemes: A New Class of Time Integration Schemes for Stochastic Differential Equations. *SIAM Journal of Scientific Computing*, **2012**, 34, A137-A160	2.6	
133	Computationally-efficient and scalable parallel implementation of chemistry in simulations of turbulent combustion. *Combustion and Flame*, **2012**, 159, 3096-3109	5.3	27
132	Modelling effects of subgrid-scale mixture fraction variance in LES of a piloted diffusion flame. *Combustion Theory and Modelling*, **2012**, 16, 611-638	1.5	30
131	Turbulence Resolution Scale Dependence in Large-Eddy Simulations of a Jet Flame. *Flow, Turbulence and Combustion*, **2012**, 88, 529-561	2.5	12
130	EPVS-FMDF for LES of High-Speed Turbulent Flows **2012**,		7
129	Turbulent piloted partially-premixed flames with varying levels of O2/N2: stability limits and PDF calculations. *Combustion Theory and Modelling*, **2011**, 15, 773-793	1.5	12

128	Combined dimension reduction and tabulation strategy using ISAT-RCCE-GALI for the efficient implementation of combustion chemistry. *Combustion and Flame*, **2011**, 158, 2113-2127	5.3	48
127	Simple models of turbulent flowsa). *Physics of Fluids*, **2011**, 23, 011301	4.4	54
126	Molecular diffusion effects in LES of a piloted methane-air flame. *Combustion and Flame*, **2011**, 158, 240-254	5.3	30
125	Numerical implementation of mixing and molecular transport in LES/PDF studies of turbulent reacting flows. *Journal of Computational Physics*, **2011**, 230, 6916-6957	4.1	34
124	Large eddy simulation/probability density function modeling of a turbulent . *Proceedings of the Combustion Institute*, **2011**, 33, 1319-1330	5.9	81
123	Reduced description of reactive flows with tabulation of chemistry. *Combustion Theory and Modelling*, **2011**, 15, 827-848	1.5	37
122	PDF calculations of piloted premixed jet flames. *Combustion Theory and Modelling*, **2011**, 15, 245-266	1.5	33
121	Self-conditioned fields for large-eddy simulations of turbulent flows. *Journal of Fluid Mechanics*, **2010**, 652, 139-169	3.7	57
120	A greedy algorithm for species selection in dimension reduction of combustion chemistry. *Combustion Theory and Modelling*, **2010**, 14, 619-652	1.5	33
119	Simulation of Sandia Flame D Using Velocity-Scalar Filtered Density Function. *AIAA Journal*, **2010**, 48, 1513-1522	2.1	40
118	Weak second-order splitting schemes for Lagrangian Monte Carlo particle methods for the composition PDF/FDF transport equations. *Journal of Computational Physics*, **2010**, 229, 1852-1878	4.1	36
117	Efficient Implementation of Chemistry in Computational Combustion. *Flow, Turbulence and Combustion*, **2009**, 82, 437-453	2.5	28
116	Sensitivity calculations in PDF modelling of turbulent flames. *Proceedings of the Combustion Institute*, **2009**, 32, 1629-1637	5.9	20
115	An improved algorithm for in situ adaptive tabulation. *Journal of Computational Physics*, **2009**, 228, 361-386	4.1	109
114	Computationally efficient implementation of combustion chemistry in parallel PDF calculations. *Journal of Computational Physics*, **2009**, 228, 5490-5525	4.1	36
113	Lagrangian investigation of local extinction, re-ignition and auto-ignition in turbulent flames. *Combustion Theory and Modelling*, **2008**, 12, 857-882	1.5	39
112	Turbulent dispersion from line sources in grid turbulence. *Physics of Fluids*, **2008**, 20, 101514	4.4	26
111	Time-averaging strategies in the finite-volume/particle hybrid algorithm for the joint PDF equation of turbulent reactive flows. *Combustion Theory and Modelling*, **2008**, 12, 529-544	1.5	18

110	Universal intermittent properties of particle trajectories in highly turbulent flows. *Physical Review Letters*, **2008**, 100, 254504	7.4	123
109	The parabolic edge reconstruction method (PERM) for Lagrangian particle advection. *Journal of Computational Physics*, **2008**, 227, 5447-5491	4.1	22
108	Second-order splitting schemes for a class of reactive systems. *Journal of Computational Physics*, **2008**, 227, 8165-8176	4.1	58
107	An accurate time advancement algorithm for particle tracking. *Journal of Computational Physics*, **2008**, 227, 8792-8806	4.1	6
106	Sensitivity calculations in PDF particle methods. *Combustion and Flame*, **2008**, 153, 202-215	5.3	8
105	Lagrangian conditional statistics, acceleration and local relative motion in numerically simulated isotropic turbulence. *Journal of Fluid Mechanics*, **2007**, 582, 399-422	3.7	37
104	A conditionally cubic-Gaussian stochastic Lagrangian model for acceleration in isotropic turbulence. *Journal of Fluid Mechanics*, **2007**, 582, 423-448	3.7	25
103	A numerical study of auto-ignition in turbulent lifted flames issuing into a vitiated co-flow. *Combustion Theory and Modelling*, **2007**, 11, 351-376	1.5	101
102	Reduced description of complex dynamics in reactive systems. *Journal of Physical Chemistry A*, **2007**, 111, 8464-74	2.8	15
101	Application of the ICE-PIC method for the dimension reduction of chemical kinetics coupled with transport. *Proceedings of the Combustion Institute*, **2007**, 31, 473-481	5.9	27
100	The effect of mixing models in PDF calculations of piloted jet flames. *Proceedings of the Combustion Institute*, **2007**, 31, 1543-1550	5.9	92
99	A particle formulation for treating differential diffusion in filtered density function methods. *Journal of Computational Physics*, **2007**, 226, 947-993	4.1	96
98	Transport budgets in turbulent lifted flames of methane autoigniting in a vitiated co-flow. *Combustion and Flame*, **2007**, 151, 495-511	5.3	98
97	Transport-chemistry coupling in the reduced description of reactive flows. *Combustion Theory and Modelling*, **2007**, 11, 715-739	1.5	21
96	**2007**,		4
95	Comparative study of micromixing models in transported scalar PDF simulations of turbulent nonpremixed bluff body flames. *Combustion and Flame*, **2006**, 146, 109-130	5.3	35
94	The use of slow manifolds in reactive flows. *Combustion and Flame*, **2006**, 147, 243-261	5.3	43
93	Operator-splitting with ISAT to model reacting flow with detailed chemistry. *Combustion Theory and Modelling*, **2006**, 10, 199-217	1.5	57

92	The geometry of reaction trajectories and attracting manifolds in composition space. *Combustion Theory and Modelling*, **2006**, 10, 361-388	1.5	18
91	The invariant constrained equilibrium edge preimage curve method for the dimension reduction of chemical kinetics. *Journal of Chemical Physics*, **2006**, 124, 114111	3.9	80
90	Modeling unsteady reacting flow with operator splitting and ISAT. *Combustion and Flame*, **2006**, 147, 150-162	5.3	31
89	The performance of in situ adaptive tabulation in computations of turbulent flames. *Combustion Theory and Modelling*, **2005**, 9, 549-568	1.5	23
88	Species reconstruction using pre-image curves. *Proceedings of the Combustion Institute*, **2005**, 30, 1293-1300	3.9	36
87	Calculations of bluff-body stabilized flames using a joint probability density function model with detailed chemistry. *Combustion and Flame*, **2005**, 141, 89-117	5.3	62
86	Turbulent lifted flames in a vitiated coflow investigated using joint PDF calculations. *Combustion and Flame*, **2005**, 142, 438-453	5.3	136
85	The influence of chemical mechanisms on PDF calculations of nonpremixed piloted jet flames?. *Combustion and Flame*, **2005**, 143, 450-470	5.3	103
84	Experimental study of velocity filtered joint density function for large eddy simulation. *Physics of Fluids*, **2004**, 16, 3599-3613	4.4	33
83	Accessed Compositions in Turbulent Reactive Flows. *Flow, Turbulence and Combustion*, **2004**, 72, 219-243	2.5	21
82	An investigation of the performance of turbulent mixing models. *Combustion and Flame*, **2004**, 136, 208-216	5.3	78
81	Entropy production and element conservation in the quasi-steady-state approximation. *Combustion and Flame*, **2004**, 137, 251-254	5.3	22
80	Gibbs function continuation for the stable computation of chemical equilibrium. *Combustion and Flame*, **2004**, 139, 222-226	5.3	38
79	A more accurate projection in the rate-controlled constrained-equilibrium method for dimension reduction of combustion chemistry. *Combustion Theory and Modelling*, **2004**, 8, 255-279	1.5	35
78	Exploiting ISAT to solve the reaction–diffusion equation. *Combustion Theory and Modelling*, **2004**, 8, 361-383	1.5	57
77	Computational Models for Turbulent Reacting Flows. By R. O. FOX. Cambridge University Press, 2003. 438 pp. ISBN 0521 650496, £80 or 55 (paperback). *Journal of Fluid Mechanics*, **2004**, 504, 407-409	3.7	
76	Ten questions concerning the large-eddy simulation of turbulent flows. *New Journal of Physics*, **2004**, 6, 35-35	2.9	614
75	PDF modeling of a bluff-body stabilized turbulent flame. *Combustion and Flame*, **2003**, 132, 115-137	5.3	67

74	Numerical integration of stochastic differential equations: weak second-order mid-point scheme for application in the composition PDF method. *Journal of Computational Physics*, **2003**, 185, 194-212	4.1	27
73	Comment on the article An effective particle tracing scheme on structured/unstructured grids in hybrid finite volume/PDF Monte Carlo methods by Li and Modest. *Journal of Computational Physics*, **2003**, 186, 356-358	4.1	10
72	Implementation of combustion chemistry by in situ adaptive tabulation of rate-controlled constrained equilibrium manifolds. *Proceedings of the Combustion Institute*, **2002**, 29, 1411-1417	5.9	49
71	A stochastic Lagrangian model for acceleration in turbulent flows. *Physics of Fluids*, **2002**, 14, 2360	4.4	41
70	Coagulation-induced particle-concentration fluctuations in homogeneous, isotropic turbulence. *Physics of Fluids*, **2002**, 14, 2447	4.4	12
69	Stochastic Lagrangian models of velocity in homogeneous turbulent shear flow. *Physics of Fluids*, **2002**, 14, 1696-1702	4.4	52
68	A Hybrid Algorithm for the Joint PDF Equation of Turbulent Reactive Flows. *Journal of Computational Physics*, **2001**, 166, 218-252	4.1	131
67	PDF Simulations of a Bluff-Body Stabilized Flow. *Journal of Computational Physics*, **2001**, 169, 1-23	4.1	48
66	The Hybrid Method for the PDF Equations of Turbulent Reactive Flows: Consistency Conditions and Correction Algorithms. *Journal of Computational Physics*, **2001**, 172, 841-878	4.1	121
65	In Situ Detailed Chemistry Calculations in Combustor Flow Analyses. *Journal of Engineering for Gas Turbines and Power*, **2001**, 123, 747-756	1.7	43
64	PDF calculations of turbulent nonpremixed flames with local extinction. *Combustion and Flame*, **2000**, 123, 281-307	5.3	225
63	Probability density function calculations of local extinction and no production in piloted-jet turbulent methane/air flames. *Proceedings of the Combustion Institute*, **2000**, 28, 133-139	5.9	111
62	Turbulent Flows **2000**,		5660
61	PDF simulations of turbulent combustion incorporating detailed chemistry. *Combustion and Flame*, **1999**, 117, 340-350	5.3	29
60	Comparison of mixing model performance for nonpremixed turbulent reactive flow. *Combustion and Flame*, **1999**, 117, 732-754	5.3	46
59	Assessment of Numerical Accuracy of PDF/Monte Carlo Methods for Turbulent Reacting Flows. *Journal of Computational Physics*, **1999**, 152, 192-230	4.1	83
58	A Consistent Hybrid Finite-Volume/Particle Method for the PDF Equations of Turbulent Reactive Flows. *Journal of Computational Physics*, **1999**, 154, 342-371	4.1	130
57	Filtered mass density function for large-eddy simulation of turbulent reacting flows. *Journal of Fluid Mechanics*, **1999**, 401, 85-121	3.7	263

56	A Perspective on Turbulence Modeling. *ICASE/LaRC Interdisciplinary Series in Science and Engineering*, **1999**, 53-67		11
55	Direct numerical simulation of a statistically stationary, turbulent reacting flow. *Combustion Theory and Modelling*, **1999**, 3, 371-408	1.5	17
54	An investigation of the accuracy of manifold methods and splitting schemes in the computational implementation of combustion chemistry. *Combustion and Flame*, **1998**, 112, 16-32	5.3	119
53	Treating chemistry in combustion with detailed mechanisms—In situ adaptive tabulation in principal directions—Premixed combustion. *Combustion and Flame*, **1998**, 112, 85-112	5.3	61
52	A mixing model for turbulent reactive flows based on Euclidean minimum spanning trees. *Combustion and Flame*, **1998**, 115, 487-514	5.3	316
51	A deterministic forcing scheme for direct numerical simulations of turbulence. *Computers and Fluids*, **1998**, 27, 11-28	2.8	54
50	PDF calculations of major and minor species in a turbulent piloted jet flame. *Proceedings of the Combustion Institute*, **1998**, 27, 1081-1086		30
49	Probability density function/Monte Carlo simulation of near-wall turbulent flows. *Journal of Fluid Mechanics*, **1998**, 357, 141-166	3.7	55
48	The vanishing effect of molecular diffusivity on turbulent dispersion: implications for turbulent mixing and the scalar flux. *Journal of Fluid Mechanics*, **1998**, 359, 299-312	3.7	73
47	Wall-function treatment in pdf methods for turbulent flows. *Physics of Fluids*, **1997**, 9, 2692-2703	4.4	26
46	Probability density function and Reynolds-stress modeling of near-wall turbulent flows. *Physics of Fluids*, **1997**, 9, 154-163	4.4	75
45	PDF Model Calculations of Compressible Turbulent Flows Using Smoothed Particle Hydrodynamics. *Journal of Computational Physics*, **1997**, 134, 150-168	4.1	33
44	Particle Method for Turbulent Flows: Integration of Stochastic Model Equations. *Journal of Computational Physics*, **1995**, 117, 332-349	4.1	52
43	Modeling of extinction in turbulent diffusion flames by the velocity-dissipation-composition PDF method. *Combustion and Flame*, **1995**, 100, 211-220	5.3	46
42	Nonpremixed turbulent reacting flow near extinction. *Combustion and Flame*, **1995**, 101, 501-528	5.3	34
41	Stationary probability density functions: An exact result. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 1529-1531		62
40	Differential diffusion of passive scalars in isotropic turbulence. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 2467-2478		44
39	PDF calculations of turbulent nonpremixed flames of using reduced chemical mechanisms. *Combustion and Flame*, **1993**, 95, 133-150	5.3	18

38	Propagating surfaces in isotropic turbulence. *Journal of Fluid Mechanics*, **1992**, 234, 247	3.7	46
37	Simplifying chemical kinetics: Intrinsic low-dimensional manifolds in composition space. *Combustion and Flame*, **1992**, 88, 239-264	5.3	1099
36	Application of the velocity-dissipation probability density function model to inhomogeneous turbulent flows. *Physics of Fluids A, Fluid Dynamics*, **1991**, 3, 1947-1957		46
35	Turbulent mixing model based on ordered pairing. *Combustion and Flame*, **1991**, 83, 27-42	5.3	39
34	PDF calculations of piloted turbulent nonpremixed flames of methane. *Combustion and Flame*, **1990**, 81, 13-29	5.3	51
33	Straining and scalar dissipation on material surfaces in turbulence: Implications for flamelets. *Combustion and Flame*, **1990**, 79, 340-365	5.3	107
32	The velocity-dissipation probability density function model for turbulent flows. *Physics of Fluids A, Fluid Dynamics*, **1990**, 2, 1437-1449		127
31	A diffusion model for velocity gradients in turbulence. *Physics of Fluids A, Fluid Dynamics*, **1990**, 2, 242-256		87
30	Material-element deformation in isotropic turbulence. *Journal of Fluid Mechanics*, **1990**, 220, 427-458	3.7	164
29	The curvature of material surfaces in isotropic turbulence. *Physics of Fluids A, Fluid Dynamics*, **1989**, 1, 2010-2018		62
28	Lagrangian statistics from direct numerical simulations of isotropic turbulence. *Journal of Fluid Mechanics*, **1989**, 207, 531-586	3.7	374
27	The evolution of surfaces in turbulence. *International Journal of Engineering Science*, **1988**, 26, 445-469	5.7	339
26	Assessment of a partial-equilibrium/monte carlo model for turbulent syngas flames. *Combustion and Flame*, **1988**, 72, 159-173	5.3	22
25	An algorithm for tracking fluid particles in numerical simulations of homogeneous turbulence. *Journal of Computational Physics*, **1988**, 79, 373-416	4.1	249
24	An examination of forcing in direct numerical simulations of turbulence. *Computers and Fluids*, **1988**, 16, 257-278	2.8	455
23	Direct numerical simulations of the turbulent mixing of a passive scalar. *Physics of Fluids*, **1988**, 31, 506		382
22	Consistency conditions for random-walk models of turbulent dispersion. *Physics of Fluids*, **1987**, 30, 2374		57
21	A pdf modeling study of self-similar turbulent free shear flows. *Physics of Fluids*, **1987**, 30, 1026		84

List of Publications

2	The probability approach to the modelling of turbulent reacting flows. *Combustion and Flame*, **1976**, 27, 299-312	5.3	145
1	A more general effective-viscosity hypothesis. *Journal of Fluid Mechanics*, **1975**, 72, 331	3.7	547