Josette Bellan

List of Publications by Year
in descending order

68	1,936	331670 21	254184 43
papers	citations	h-index	g-index

69	69	69	666
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Direct numerical simulations of supercritical fluid mixing layers applied to heptaneâ€“nitrogen. Journal of Fluid Mechanics, 2001, 436, 1-39.	3.4	156
2	Efficient high-pressure state equations. AICHE Journal, 1997, 43, 1605-1610.	3.6	146
3	Direct numerical simulation of a transitional supercritical binary mixing layer: heptane and nitrogen. Journal of Fluid Mechanics, 2002, 464, 1-34.	3.4	127
4	Consistent Boundary Conditions for Multicomponent Real Gas Mixtures Based on Characteristic Waves. Journal of Computational Physics, 2002, 176, 330-344.	3.8	126
5	Modeling of dense gasâ€“solid reactive mixtures applied to biomass pyrolysis in a fluidized bed. International Journal of Multiphase Flow, 2001, 27, 2155-2187.	3.4	110
6	Consistent large-eddy simulation of a temporal mixing layer laden with evaporating drops. Part 1. Direct numerical simulation, formulation and a priori analysis. Journal of Fluid Mechanics, 2004, 499, 1-47.	3.4	110
7	THEORY, MODELING AND ANALYSIS OF TURBULENT SUPERCRITICAL MIXING. Combustion Science and Technology, 2006, 178, 253-281.	2.3	103
8	Modelling of subgrid-scale phenomena in supercritical transitional mixing layers: an <i>a priori</i> study. Journal of Fluid Mechanics, 2007, 593, 57-91.	3.4	100
9	Direct Numerical Simulations of O/H Temporal Mixing Layers Under Supercritical Conditions. AIAA Journal, 2002, 40, 914-926.	2.6	87
10	Multi-species turbulent mixing under supercritical-pressure conditions: modelling, direct numerical simulation and analysis revealing species spinodal decomposition. Journal of Fluid Mechanics, 2013, 721, 578-626.	3.4	82
11	High-Pressure Binary Mass Diffusion Coefficients for Combustion Applications. Industrial & Engineering Chemistry Research, 2004, 43, 645-654.	3.7	50
12	<i>A posteriori</i> study using a DNS database describing fluid disintegration and binary-species mixing under supercritical pressure: heptane and nitrogen. Journal of Fluid Mechanics, 2010, 645, 211-254.	3.4	50
13	Direct numerical simulation of a high-pressure turbulent reacting temporal mixing layer. Combustion and Flame, 2017, 176, 245-262.	5.2	46
14	Consistent large-eddy simulation of a temporal mixing layer laden with evaporating drops. Part 2. A posteriori modelling. Journal of Fluid Mechanics, 2005, 523, 37-78.	3.4	43
15	Modeling evaporation of Jet A, JP-7, and RP-1 drops at 1 to 15 bars. Combustion and Flame, 2004, 137, 163-177.	5.2	42
16	Real-Gas Effects on Mean Flow and Temporal Stability of Binary-Species Mixing Layers. AIAA Journal, 2003, 41, 2429-2443.	2.6	40
17	Theoretical examination of assumptions commonly used for the gas phase surrounding a burning droplet. Combustion and Flame, 1978, 33, 107-122.	5.2	37
18	Explicit filtering to obtain grid-spacing-independent and discretization-order-independent large-eddy simulation of compressible single-phase flow. Journal of Fluid Mechanics, 2012, 697, 399-435.	3.4	37

#	Article	IF	Citations
19	Subgrid-scale models and large-eddy simulation of oxygen stream disintegration and mixing with a hydrogen or helium stream at supercritical pressure. Journal of Fluid Mechanics, 2011, 679, 156-193.	3.4	30
20	High-fidelity modeling and numerical simulation of cratering induced by the interaction of a supersonic jet with a granular bed of solid particles. International Journal of Multiphase Flow, 2018, 99, 1-29.	3.4	30
21	Global analysis and parametric dependencies for potential unintended hydrogen-fuel releases. Combustion and Flame, 2006, 144, 89-102.	5.2	29
22	The influence of the chemical composition representation according to the number of species during mixing in high-pressure turbulent flows. Journal of Fluid Mechanics, 2019, 863, 293-340.	3.4	20
23	A model of reduced kinetics for alkane oxidation using constituents and species: Proof of concept for n-heptane. Combustion and Flame, 2010, 157, 1594-1609.	5.2	18
24	Perturbation and initial Reynolds number effects on transition attainment of supercritical, binary, temporal mixing layers. Computers and Fluids, 2004, 33, 1023-1046.	2.5	16
25	Heavy-alkane oxidation kinetic-mechanism reduction using dominant dynamic variables, self similarity and chemistry tabulation. Combustion and Flame, 2014, 161, 1196-1223.	5.2	16
26	On models for predicting thermodynamic regimes in high-pressure turbulent mixing and combustion of multispecies mixtures. Journal of Fluid Mechanics, 2018, 843, 536-574.	3.4	15
27	A preliminary theoretical study of droplet extinction by depressurization. Combustion and Flame, 1978, 32, 257-270.	5.2	14
28	Small-scale dissipation in binary-species, thermodynamically supercritical, transitional mixing layers. Computers and Fluids, 2010, 39, 1112-1124.	2.5	14
29	Quasi-steady gas phase assumption for a burning droplet. AIAA Journal, 1976, 14, 973-975.	2.6	13
30	A model of reduced oxidation kinetics using constituents and species: Iso-octane and its mixtures with n-pentane, iso-hexane and n-heptane. Combustion and Flame, 2010, 157, 2184-2197.	5.2	13
31	High-pressure reduced-kinetics mechanism for n-hexadecane autoignition and oxidation at constant pressure. Combustion and Flame, 2015, 162, 571-579.	5.2	13
32	Evaluation of mixture-fraction-based turbulent-reaction-rate model assumptions for high-pressure reactive flows. Combustion and Flame, 2017, 179, 253-266.	5.2	13
33	A multi-species modeling framework for describing supersonic jet-induced cratering in a granular bed: Cratering on Titan case study. International Journal of Multiphase Flow, 2019, 118, 205-241.	3.4	13
34	Detailed characteristics of drop-laden mixing layers: Large eddy simulation predictions compared to direct numerical simulation. Physics of Fluids, 2008, 20, .	4.0	12
35	Future Challenges in the Modelling and Simulations of High-pressure Flows. Combustion Science and Technology, 2020, 192, 1199-1218.	2.3	12
36	Fluid density effects in supersonic jet-induced cratering in a granular bed on a planetary body having an atmosphere in the continuum regime. Journal of Fluid Mechanics, 2021, 915, .	3.4	12

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37	On de-coupling of Shvab-Zel'dovich variables in the presence of diffusion. Combustion and Flame, 2003, 132, 691-696.	5.2	10
38	Irreversible entropy production rate in high-pressure turbulent reactive flows. Proceedings of the Combustion Institute, 2015, 35, 1537-1547.	3.9	10
39	A priori evaluation of the Double-conditioned Conditional Source-term Estimation model for high-pressure heptane turbulent combustion using DNS data obtained with one-step chemistry. Combustion and Flame, 2020, 217, 131-151.	5.2	10
40	Prediction of premixed, n-heptane and iso-octane unopposed jet flames using a reduced kinetic model based on constituents and light species. Combustion and Flame, 2013, 160, 2404-2421.	5.2	9
41	The modeling of the turbulent reaction rate under high-pressure conditions: A priori evaluation of the Conditional Source-term Estimation concept. Combustion and Flame, 2019, 207, 205-221.	5.2	9
42	Highly Reduced Species Mechanisms for isoâ€Cetane Using the Local Selfâ€Similarity Tabulation Method. International Journal of Chemical Kinetics, 2016, 48, 739-752.	1.6	8
43	Side-jet effects in high-pressure turbulent flows: Direct Numerical Simulation of nitrogen injected into carbon dioxide. Journal of Supercritical Fluids, 2018, 140, 165-181.	3.2	8
44	Investigation of high-pressure turbulent jets using direct numerical simulation. Journal of Fluid Mechanics, 2021, 922, .	3.4	8
45	Explicit filtering to obtain grid-spacing-independent and discretization-order-independent large-eddy simulation of two-phase volumetrically dilute flow with evaporation. Journal of Fluid Mechanics, 2013, 719, 230-267.	3.4	7
46	Large-Eddy Simulation of Supersonic Round Jets: Effects of Reynolds and Mach Numbers. AIAA Journal, 2016, 54, 1482-1498.	2.6	7
47	On possible release of microbe-containing particulates from a Mars lander spacecraft. Planetary and Space Science, 2006, 54, 273-286.	1.7	6
48	From elementary kinetics in perfectly stirred reactors to reduced kinetics utilizable in turbulent reactive flow simulations for combustion devices. Combustion and Flame, 2017, 184, 286-296.	5.2	6
49	Investigation of species-mass diffusion in binary-species boundary layers at high pressure using direct numerical simulations. Journal of Fluid Mechanics, 2021, 928, .	3.4	6
50	Modeling of multicomponent homogeneous nucleation using continuous thermodynamics. Combustion and Flame, 2004, 139, 252-262.	5.2	5
51	An experimental study of the mixing of CO2 and N2 under conditions found at the surface of Venus. Icarus, 2020, 338, 113550.	2.5	5
52	Model for Studying Unsteady Droplet Combustion. AIAA Journal, 1977, 15, 234-242.	2.6	4
53	Global thermodynamic, transport-property and dynamic characteristics of the Venus lower atmosphere below the cloud layer. Icarus, 2020, 350, 113761.	2.5	4
54	Turbulent chemical-species mixing in the Venus lower atmosphere at different altitudes: a direct numerical simulation study relevant to understanding species spatial distribution. Icarus, 2022, 371, 114686.	2.5	4

#	Article	IF	Citations
55	Explicitly-filtered LES for the grid-spacing-independent and discretization-order-independent prediction of a conserved scalar. Computers and Fluids, 2015, 111, 137-149.	2.5	3
56	Helicity in Supercritical Temporal Mixing Layers. , 2003, , .		2
57	Influence of computational drop representation in LES of a mixing layer with evaporating drops. Computers and Fluids, 2012, 58, 15-26.	2.5	2
58	Twentyâ€species and 15â€species chemical kinetic mechanisms for cyclohexane using the local selfâ€similarity tabulation method. International Journal of Chemical Kinetics, 2020, 52, 526-547.	1.6	2
59	Ejecta from Granular-Medium Cratering by a Supersonic Jet Entering a Continuum Atmosphere. AIAA Journal, 0, , 1-16.	2.6	2
60	A posteriori assessment of assumptions used in the modeling of dense reactive granular flows. Combustion and Flame, 2002, 131, 353-356.	5.2	1
61	Characteristics of Supercritical Transitional Temporal Mixing Layers. Fluid Mechanics and Its Applications, 2002, , 59-71.	0.2	1
62	Large Eddy Simulations of High-Pressure Jets: Effect of Subgrid-Scale Modeling. , 2020, , 461-483.		1
63	Small-Scale Dissipation in Supercritical, Transitional Mixing Layers. , 2009, , .		0
64	Computation of Laminar Premixed Flames Using Reduced Kinetics Based on Constituents and Species. , 2011, , .		0
65	A new formulation of the Large Eddy Simulation composition equations for two-phase fully-multicomponent turbulent flows. Computers and Fluids, 2011, 50, 94-103.	2.5	0
66	Modeling of Steady Laminar Flames for One-dimensional Premixed Jets of Heptane/Air and Octane/Air Mixtures. , 2012, , .		0
67	Pressure Effects from Direct Numerical Simulation of High-Pressure Multispecies Mixing. , 2013, , .		0
68	Modeling of Steady High-Pressure Laminar Premixed Flames of N-Heptane and Iso-Octane. , 2013, , .		0