

Stefano Cerbelli

List of Publications by Year in descending order

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49
papers

1,011
citations

430754

18
h-index

454834

30
g-index

49
all docs

49
docs citations

49
times ranked

697
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison between one- and two-way coupling approaches for estimating effective transport properties of suspended particles undergoing Brownian sieving hydrodynamic chromatography. <i>Physics of Fluids</i> , 2022, 34, .	1.6	7
2	Taming Taylor-Aris dispersion through chaotic advection. <i>Journal of Chromatography A</i> , 2022, 1673, 463110.	1.8	8
3	50-Fold Reduction of Separation Time in Open-Channel Hydrodynamic Chromatography via Lateral Vortices. <i>Analytical Chemistry</i> , 2022, 94, 9872-9879.	3.2	4
4	Deactivation-induced dynamics of the reaction front in a fixed-bed catalytic membrane reactor: Methane cracking as a case study. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 20159-20170.	3.8	6
5	Brownian Sieving Effect for Boosting the Performance of Microcapillary Hydrodynamic Chromatography. Proof of Concept. <i>Analytical Chemistry</i> , 2021, 93, 6808-6816.	3.2	10
6	Brownian sieving enhancement of microcapillary hydrodynamic chromatography. Analysis of the separation performance based on Brenner's macro-transport theory. <i>Journal of Chromatography A</i> , 2021, 1659, 462652.	1.8	6
7	Comment on "A novel numerical modeling paradigm for bio particle tracing in non inertial microfluidic devices" by Ebadi et al., <i>Microsystem Technologies</i> (2019) https://doi.org/10.1007/s00542-018-4275-6 . <i>Microsystem Technologies</i> , 2020, 26, 1187-1190.	1.2	0
8	Combining Electrostatic, Hindrance and Diffusive Effects for Predicting Particle Transport and Separation Efficiency in Deterministic Lateral Displacement Microfluidic Devices. <i>Biosensors</i> , 2020, 10, 126.	2.3	8
9	On the Three-Dimensional Structure of the Flow through Deterministic Lateral Displacement Devices and Its Effects on Particle Separation. <i>Processes</i> , 2019, 7, 498.	1.3	5
10	Space-time resolution of size-dispersed suspensions in Deterministic Lateral Displacement microfluidic devices. <i>European Physical Journal: Special Topics</i> , 2019, 228, 5-23.	1.2	5
11	Taming axial dispersion in hydrodynamic chromatography columns through wall patterning. <i>Physics of Fluids</i> , 2018, 30, .	1.6	21
12	Inertia-driven enhancement of mixing efficiency in microfluidic cross-junctions: a combined Eulerian/Lagrangian approach. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	1.0	10
13	Modeling Fixed Bed Membrane Reactors for Hydrogen Production through Steam Reforming Reactions: A Critical Analysis. <i>Membranes</i> , 2018, 8, 34.	1.4	18
14	Transport-reaction-permeation regimes in catalytic membrane reactors for hydrogen production. The steam reforming of methane as a case study. <i>Chemical Engineering Science</i> , 2017, 162, 88-103.	1.9	29
15	Modelling and optimization of hydrogen yield in membrane steam reforming reactors. <i>Canadian Journal of Chemical Engineering</i> , 2017, 95, 1676-1682.	0.9	15
16	Singular eigenvalue limit of advection-diffusion operators and properties of the strange eigenfunctions in globally chaotic flows. <i>European Physical Journal: Special Topics</i> , 2017, 226, 2247-2262.	1.2	6
17	An equilibrium theory for catalytic steam reforming in membrane reactors. <i>Chemical Engineering Science</i> , 2017, 160, 291-303.	1.9	34
18	Laminar dispersion at low and high Peclet numbers in finite-length patterned microtubes. <i>Physics of Fluids</i> , 2017, 29, .	1.6	23

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19	Effective dispersion and separation resolution in continuous particle fractionation. <i>Microfluidics and Nanofluidics</i> , 2015, 19, 1035-1046.	1.0	17
20	The impact of chaotic advection on the microstructure of polymer-modified bitumen. <i>AIChE Journal</i> , 2014, 60, 1870-1879.	1.8	0
21	Acid reducing leaching of cathodic powder from spent lithium ion batteries: Glucose oxidative pathways and particle area evolution. <i>Journal of Industrial and Engineering Chemistry</i> , 2014, 20, 3201-3207.	2.9	107
22	Quantifying dispersion of finite-sized particles in deterministic lateral displacement microflow separators through Brenner's macrotransport paradigm. <i>Microfluidics and Nanofluidics</i> , 2013, 15, 431-449.	1.0	23
23	Critical dispersion of advecting-diffusing tracers in periodic landscapes of hard-wall symmetric potentials. <i>Physical Review E</i> , 2013, 87, 060102.	0.8	8
24	Separation of polydisperse particle mixtures by deterministic lateral displacement. The impact of particle diffusivity on separation efficiency. <i>Asia-Pacific Journal of Chemical Engineering</i> , 2012, 7, S356.	0.8	14
25	Convection-Dominated Dispersion Regime in Wide-Bore Chromatography: A Transport-Based Approach To Assess the Occurrence of Slip Flows in Microchannels. <i>Analytical Chemistry</i> , 2009, 81, 8009-8014.	3.2	25
26	On the estimate of mixing length in interdigital micromixers. <i>Chemical Engineering Journal</i> , 2008, 138, 523-537.	6.6	6
27	Invariant structures and multifractal measures in 2d mixing systems. , 2005, , 141-155.		0
28	Spectral Properties and Transport Mechanisms of Partially Chaotic Bounded Flows in the Presence of Diffusion. <i>Physical Review Letters</i> , 2004, 92, 114101.	2.9	36
29	Structural modelling for the dissolution of non-porous ores: dissolution with sporulation. <i>Chemical Engineering Journal</i> , 2004, 99, 89-104.	6.6	11
30	The sporulation model for manganiferous ore dissolution. <i>Chemical Engineering Science</i> , 2004, 59, 5107-5112.	1.9	2
31	A geometric approach for predicting vertical stationary profiles of weakly inertial advecting-diffusing particles in closed incompressible flows. <i>International Journal of Multiphase Flow</i> , 2004, 30, 675-696.	1.6	1
32	Eigenvalue-eigenfunction analysis of infinitely fast reactions and micromixing regimes in regular and chaotic bounded flows. <i>Chemical Engineering Science</i> , 2004, 59, 2125-2144.	1.9	41
33	Universality and imaginary potentials in advection-diffusion equations in closed flows. <i>Journal of Fluid Mechanics</i> , 2004, 513, 221-237.	1.4	42
34	Enhanced diffusion regimes in bounded chaotic flows. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 312, 355-362.	0.9	20
35	Closed-form solution of abrasion and abrasion-dissolution kinetic models. <i>Chemical Engineering Journal</i> , 2003, 94, 127-137.	6.6	3
36	EXTERIOR ALGEBRA-BASED ALGORITHMS TO ESTIMATE LIAPUNOV SPECTRA AND STRETCHING STATISTICS IN HIGH-DIMENSIONAL AND DISTRIBUTED SYSTEMS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2002, 12, 353-368.	0.7	8

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37	Prediction and quantification of micromixing intensities in laminar flows. <i>AIChE Journal</i> , 2002, 48, 686-700.	1.8	14
38	Câž-Interpolation of Discrete Fields on Regular and Irregular Grids. <i>Journal of Computational Physics</i> , 2002, 176, 145-169.	1.9	4
39	A spectral approach to reaction/diffusion kinetics in chaotic flows. <i>Computers and Chemical Engineering</i> , 2002, 26, 125-139.	2.0	34
40	Tracer Dispersion in Stirred Tank Reactors: Asymptotic Properties and Mixing Characterization. <i>Canadian Journal of Chemical Engineering</i> , 2002, 80, 580-590.	0.9	7
41	ADE approach to predicting dispersion of heavy particles in wall-bounded turbulence. <i>International Journal of Multiphase Flow</i> , 2001, 27, 1861-1879.	1.6	42
42	Invariant properties of a class of exactly solvable mixing transformations â€“ A measure-theoretical approach to model the evolution of material lines advected by chaotic flows. <i>Chaos, Solitons and Fractals</i> , 2000, 11, 607-630.	2.5	4
43	The evolution of material lines curvature in deterministic chaotic flows. <i>Chemical Engineering Science</i> , 2000, 55, 363-371.	1.9	18
44	The geometry of mixing in 2-d time-periodic chaotic flows. <i>Chemical Engineering Science</i> , 2000, 55, 381-389.	1.9	11
45	The intermaterial area density generated by time- and spatially periodic 2D chaotic flows. <i>Chemical Engineering Science</i> , 2000, 55, 1497-1508.	1.9	51
46	The geometry of mixing in time-periodic chaotic flows. I. Asymptotic directionality in physically realizable flows and global invariant properties. <i>Physica D: Nonlinear Phenomena</i> , 1999, 132, 298-324.	1.3	48
47	Non-uniform stationary measure properties of chaotic area-preserving dynamical systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 254, 451-465.	1.2	15
48	Analytic expression for the short-time rate of growth of the intermaterial contact perimeter in two-dimensional chaotic flows and Hamiltonian systems. <i>Physical Review E</i> , 1998, 58, 447-458.	0.8	27
49	Fractional diffusion equation and relaxation in complex viscoelastic materials. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1992, 191, 449-453.	1.2	157