

# Francesco Nasuti

## List of Publications by Year in descending order

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154  
papers

2,737  
citations

147566

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156  
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times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	Numerical Estimation of Nozzle Throat Heat Flux in Oxygen-Methane Rocket Engines. Journal of Propulsion and Power, 2023, 39, 71-83.	1.3	3
2	Graphite Nozzle Erosion Trends in Paraffin/Oxygen Hybrid Rockets. Journal of Propulsion and Power, 2022, 38, 508-522.	1.3	9
3	Dual-bell nozzle with fluidic control of transition for space launchers. Acta Astronautica, 2022, 193, 130-130.	1.7	3
4	Modeling liquid rocket engine coolant flow and heat transfer in high roughness channels. Aerospace Science and Technology, 2022, 126, 107672.	2.5	5
5	Numerical Simulations of Fuel Shape Change in Paraffin-Oxygen Hybrid Rocket Engines. , 2022, , .		1
6	Modeling of Wall Heat Flux in Oxygen-Methane Liquid Rocket Thrust Chambers. , 2022, , .		1
7	HEM modeling for subcritical flows in liquid rocket engine cooling systems. , 2022, , .		0
8	Pseudo-boiling and heat transfer deterioration while heating supercritical liquid rocket engine propellants. Journal of Supercritical Fluids, 2021, 168, 105066.	1.6	30
9	Film cooling modeling in liquid rocket thrust chambers. , 2021, , .		0
10	Dual-bell nozzle for space launchers with fluidic control of transition. , 2021, , .		2
11	Gas-Phase Reaction Effects on Nozzle Erosion in Paraffin/Oxygen Hybrid Rockets. , 2021, , .		0
12	Numerical Simulations of the Internal Ballistics of Paraffin-Oxygen Hybrid Rockets at Different Scales. Aerospace, 2021, 8, 213.	1.1	10
13	A Computational Tool for the Design of Hybrid Rockets. Aerotecnica Missili & Spazio, 2021, 100, 253-262.	0.5	3
14	A Hybrid Real/Ideal Gas Mixture Computational Framework to Capture Wave Propagation in Liquid Rocket Combustion Chamber Conditions. Aerospace, 2021, 8, 250.	1.1	1
15	Conjugate heat transfer analysis of rectangular cooling channels using modeled and direct numerical simulation of turbulence. International Journal of Heat and Mass Transfer, 2021, 181, 121849.	2.5	11
16	Numerical Analysis of Paraffin-Wax/Oxygen Hybrid Rocket Engines. Journal of Propulsion and Power, 2020, 36, 806-819.	1.3	24
17	A Sensitivity Study on a CFD Model for Paraffin-based Hybrid Rockets. , 2020, , .		0
18	Fluidic Control of Transition in a Dual-bell Nozzle. , 2020, , .		5

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19	Experimental and numerical methods for radiative wall heat flux predictions in paraffin-based hybrid rocket engines. <i>Acta Astronautica</i> , 2019, 158, 304-312.	1.7	25
20	Modeling of High Density Polyethylene Regression Rate in the Simulation of Hybrid Rocket Flowfields. <i>Aerospace</i> , 2019, 6, 88.	1.1	15
21	Numerical Investigation on Radiative Heat Loads in Liquid Rocket Thrust Chambers. <i>Journal of Propulsion and Power</i> , 2019, 35, 930-943.	1.3	18
22	Predictive CFD Model for Internal Ballistics of Hybrid Rocket Engines using Supercritical Paraffin-wax and Oxygen. , 2019, , .		4
23	CFD Analysis of Paraffin-Based Hybrid Rockets with Coupled Nozzle Erosion Characterization. , 2019, , .		3
24	Analysis of thermal stratification impact on the design of cooling channels for liquid rocket engines. <i>International Journal of Heat and Mass Transfer</i> , 2019, 135, 811-821.	2.5	21
25	Quasi-1D modeling of heat release for the study of longitudinal combustion instability. <i>Aerospace Science and Technology</i> , 2018, 75, 261-270.	2.5	39
26	Assessment of detached eddy simulation of a separated flow in a planar nozzle. , 2018, , .		1
27	Convective and Radiative Wall Heat Transfer in Liquid Rocket Thrust Chambers. <i>Journal of Propulsion and Power</i> , 2018, 34, 318-326.	1.3	32
28	Numerical Investigation on the Role of Thermal Radiation in Hybrid Rocket Fuel Pyrolysis. , 2018, , .		1
29	Simulation of a single-element GCH <sub>4</sub> /GO <sub>x</sub> rocket combustor using a non-adiabatic flamelet method. , 2018, , .		12
30	Modeling and Simulation of Paraffin-Based Hybrid Rocket Internal Ballistics. , 2018, , .		12
31	A Multi-dimensional Approach for Low Order Modeling of Combustion Instability in a Rocket Combustor. , 2018, , .		4
32	Driving mechanisms in low order modeling of longitudinal combustion instability. , 2018, , .		2
33	Extraction of response function from numerical simulations and their use for longitudinal combustion instability modeling. , 2017, , .		2
34	Detached-Eddy Simulation of Shock Unsteadiness in an Overexpanded Planar Nozzle. <i>AIAA Journal</i> , 2017, 55, 2016-2028.	1.5	22
35	CSP-based chemical kinetics mechanisms simplification strategy for non-premixed combustion: An application to hybrid rocket propulsion. <i>Combustion and Flame</i> , 2017, 186, 83-93.	2.8	29
36	A methodology to study the possible occurrence of chugging in liquid rocket engines during transient start-up. <i>Acta Astronautica</i> , 2017, 139, 344-356.	1.7	5

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37	Numerical and Experimental Investigation of Nozzle Thermochemical Erosion in Hybrid Rockets. , 2017, , .		8
38	Simulations of Paraffin-Based Hybrid Rocket Motors and Comparison with Experiments. , 2017, , .		9
39	Numerical issues in modeling combustion instability by quasi-1D Euler equations. International Journal of Spray and Combustion Dynamics, 2017, 9, 349-366.	0.4	7
40	Steady and Unsteady Shock Interactions by Shock Fitting Approach. Shock Wave and High Pressure Phenomena, 2017, , 33-55.	0.1	2
41	Effect of the Adiabatic Index on the Shock Reflection in Overexpanded Nozzle Flow. , 2017, , 89-93.		0
42	Experimental investigation of transcritical methane flow in rocket engine cooling channel. Applied Thermal Engineering, 2016, 101, 61-70.	3.0	33
43	Modeling of Paraffin-Based Fuels in the Simulation of Hybrid Rocket Flowfields. , 2016, , .		4
44	Moretti's Shock-Fitting Methods on Structured and Unstructured Meshes. Handbook of Numerical Analysis, 2016, 17, 403-439.	0.9	2
45	Validation of Conjugate Heat Transfer Model for Rocket Cooling with Supercritical Methane. Journal of Propulsion and Power, 2016, 32, 726-733.	1.3	16
46	Chemical Reaction Effects on Heat Loads of CH <sub>4</sub> /O <sub>2</sub> and H <sub>2</sub> /O <sub>2</sub> Rockets. AIAA Journal, 2016, 54, 1693-1703.	1.5	39
47	Hybrid Rockets with Axial Injector: Port Diameter Effect on Fuel Regression Rate. Journal of Propulsion and Power, 2016, 32, 984-996.	1.3	54
48	Determination of Heat Release Response Function from 2D Hybrid RANS-LES Data for the CVRC Combustor. , 2015, , .		4
49	Separation Shock Cutoff Frequency in Dual Bell Nozzles. , 2015, , .		0
50	Simulation of Gaseous Oxygen/Hydroxyl-Terminated Polybutadiene Hybrid Rocket Flowfields and Comparison with Experiments. Journal of Propulsion and Power, 2015, 31, 919-929.	1.3	51
51	Assessment of a Conjugate Heat Transfer Model for Rocket Engine Cooling Channels Fed with Supercritical Methane. , 2015, , .		4
52	Numerical Analysis of Port Diameter Effect on Hybrid Rocket Fuel Regression Rate with Axial Injection. , 2015, , .		1
53	Convective and Radiative Contributions to Wall Heat Transfer in Liquid Rocket Engine Thrust Chambers. , 2015, , .		4
54	System Analysis of Low Frequency Combustion Instabilities in Liquid Rocket Engines. , 2015, , .		2

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55	Response Function Modeling in the Study of Longitudinal Combustion Instability by a Quasi-1D Eulerian Solver. , 2015, , .		7
56	Heat transfer modeling for supercritical methane flowing in rocket engine cooling channels. Applied Thermal Engineering, 2015, 75, 600-607.	3.0	47
57	Navier–Stokes Simulation of Graphite Nozzle Erosion at Different Pressure Conditions. AIAA Journal, 2015, 53, 356-366.	1.5	23
58	Radius of Curvature Effects on Throat Thermochemical Erosion in Solid Rocket Motors. Journal of Spacecraft and Rockets, 2015, 52, 320-330.	1.3	28
59	Coupled Heat Transfer Analysis in Regeneratively Cooled Thrust Chambers. Journal of Propulsion and Power, 2014, 30, 360-367.	1.3	30
60	Parametric Analysis of Cooling Properties of Candidate Expander-Cycle Fuels. Journal of Propulsion and Power, 2014, 30, 153-163.	1.3	13
61	Effect of Cooling Channel Aspect Ratio on Rocket Thermal Behavior. Journal of Thermophysics and Heat Transfer, 2014, 28, 410-416.	0.9	33
62	Numerical Evaluation of Heat Transfer Enhancement in Rocket Thrust Chambers by Wall Ribs. Numerical Heat Transfer; Part A: Applications, 2014, 66, 488-508.	1.2	29
63	Numerical Modeling of GOX/HTPB Hybrid Rocket Flowfields and Comparison with Experiments. , 2014, , .		4
64	Development of Thrust Chamber Components for a System Analysis Tool. , 2014, , .		0
65	Flow Separation Response to Unsteady External Disturbances in Dual Bell Nozzles. , 2014, , .		2
66	Low-order model studies of combustion instabilities in a DVRC combustor. , 2014, , .		7
67	Chemical Reaction Effects on Wall Heat Flux in Liquid Rocket Thrust Chambers. , 2014, , .		3
68	Cooling Channel Analysis of a LOX/LCH4 Rocket Engine Demonstrator. , 2014, , .		2
69	Experimental Investigation on Methane in Transcritical Conditions. , 2014, , .		1
70	An Italian network to improve hybrid rocket performance: Strategy and results. Acta Astronautica, 2014, 96, 246-260.	1.7	24
71	Radiation and Roughness Effects on Nozzle Thermochemical Erosion in Solid Rocket Motors. Journal of Propulsion and Power, 2014, 30, 314-324.	1.3	26
72	Radiation and Roughness Effects on the Thermochemical Erosion of Ablative Materials in Rocket Nozzles. , 2013, , .		2

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73	Numerical Analysis of Nozzle Material Thermochemical Erosion in Hybrid Rocket Engines. Journal of Propulsion and Power, 2013, 29, 547-558.	1.3	89
74	A numerical approach for the study of the gas-surface interaction in carbon-phenolic solid rocket nozzles. Aerospace Science and Technology, 2013, 27, 25-31.	2.5	45
75	Numerical study of liquefied natural gas as a coolant in liquid rocket engines. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2013, 227, 1130-1143.	0.7	5
76	An approximate Riemann solver for real gas parabolized Navier-Stokes equations. Journal of Computational Physics, 2013, 233, 574-591.	1.9	4
77	Conditions for the occurrence of heat transfer deterioration in light hydrocarbons flows. International Journal of Heat and Mass Transfer, 2013, 65, 599-609.	2.5	42
78	Coupled Wall Heat Conduction and Coolant Flow Analysis for Liquid Rocket Engines. Journal of Propulsion and Power, 2013, 29, 34-41.	1.3	48
79	Trade-off analysis of high-aspect-ratio-cooling-channels for rocket engines. International Journal of Heat and Fluid Flow, 2013, 44, 458-467.	1.1	47
80	Chemical Erosion of Carbon-Phenolic Rocket Nozzles with Finite-Rate Surface Chemistry. Journal of Propulsion and Power, 2013, 29, 1220-1230.	1.3	61
81	CFD Analysis of Hybrid Rocket Flowfields Including Fuel Pyrolysis and Nozzle Ablation. , 2013, , .		7
82	Supercritical Methane Heat Transfer Modeling in Rocket Engine Cooling Channels. , 2013, , .		1
83	Quasi-2D Modeling of High-Aspect-Ratio-Cooling-Channel Flows. , 2013, , .		2
84	Onset of Heat Transfer Deterioration in Supercritical Methane Flow Channels. Journal of Thermophysics and Heat Transfer, 2013, 27, 298-308.	0.9	74
85	Coupled Heat Transfer Analysis in Regeneratively Cooled Thrust Chambers. , 2012, , .		1
86	Numerical Analysis of Nozzle Material Thermochemical Erosion in Hybrid Rocket Engines. , 2012, , .		4
87	Numerical Study of Heat Transfer in Film Cooled Thrust Chambers. , 2012, , .		11
88	Coupled CFD Analysis of Thermochemical Erosion and Unsteady Heat Conduction in Solid Rocket Nozzles. , 2012, , .		17
89	Analysis on the Effect of Channel Aspect Ratio on Rocket Thermal Behavior. , 2012, , .		5
90	Parametric Analysis of Heat Transfer to Supercritical-Pressure Methane. Journal of Thermophysics and Heat Transfer, 2012, 26, 450-463.	0.9	38

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91	Parametric Analysis of Cooling Properties of Candidate Expander Cycle Fuels. , 2012, , .		2
92	Radius of Curvature Effects on Throat Thermochemical Erosion in Solid Rocket Motors. , 2012, , .		5
93	On the Onset of Heat Transfer Deterioration in Supercritical Coolant Flow Channels. , 2012, , .		1
94	Ablative Material Behavior in Oxygen/Methane Thruster Environment. , 2012, , .		0
95	Hydrogen storage materials for microthrusters: Basic performance analysis. Acta Astronautica, 2012, 80, 52-57.	1.7	1
96	Carbon-Carbon Nozzle Erosion and Shape-Change Effects in Full-Scale Solid-Rocket Motors. Journal of Propulsion and Power, 2012, 28, 820-830.	1.3	44
97	CFD analysis of transcritical methane in rocket engine cooling channels. Journal of Supercritical Fluids, 2012, 62, 79-87.	1.6	60
98	Aerothermodynamic Analysis of Reentry Flows with Coupled Ablation. , 2011, , .		2
99	Thermochemical Erosion Analysis for Chraphite/Carbon-Carbon Rocket Nozzles. Journal of Propulsion and Power, 2011, 27, 197-205.	1.3	77
100	Numerical Analysis of Nozzle Flows with Finite-Rate Surface Ablation and Pyrolysis-Gas Injection. , 2011, , .		4
101	A Quasi-2-D Model for the Prediction of the Wall Temperature of Rocket Engine Cooling Channels. Numerical Heat Transfer; Part A: Applications, 2011, 60, 1-24.	1.2	27
102	Numerical Simulation of Hot-Gas Side Heat Transfer Enhancement in Thrust Chambers by Wall Ribs. , 2011, , .		1
103	Coupled Numerical Simulation of Wall Heat Conduction and Coolant Flow in Liquid Rocket Engines. , 2011, , .		3
104	Navier-Stokes Simulation of Graphite Nozzle Erosion Under a Wide Range of Pressure Conditions. , 2011, , .		3
105	Parametric Analysis of Heat Transfer to Supercritical Pressure Methane. , 2011, , .		1
106	Analysis of Curved-Cooling-Channel Flow and Heat Transfer in Rocket Engines. Journal of Propulsion and Power, 2011, 27, 1045-1053.	1.3	43
107	Numerical Analysis of Heated Channel Flows by a Space-Marching Finite Volume Technique. Journal of Thermophysics and Heat Transfer, 2011, 25, 282-290.	0.9	14
108	Numerical calculation of FSS/RSS transition in highly overexpanded rocket nozzle flows. Shock Waves, 2010, 20, 139-146.	1.0	21

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109	Navier-Stokes Simulations of Hypersonic Flows with Coupled Graphite Ablation. Journal of Spacecraft and Rockets, 2010, 47, 554-562.	1.3	65
110	Numerical Analysis of Deterioration in Heat Transfer to Near-Critical Rocket Propellants. Numerical Heat Transfer; Part A: Applications, 2010, 57, 297-314.	1.2	109
111	Numerical Analysis of Heated Channel Flows by a Space-Marching Finite-Volume Technique. , 2010, , .		1
112	Heat Flux Evaluation in Oxygen/Methane Thrust Chambers by RANS Approach. , 2010, , .		5
113	CFD Analysis of Curved Cooling Channel Flow and Heat Transfer in Rocket Engines. , 2010, , .		6
114	Thermochemical Erosion Analysis of Carbon-Carbon Nozzles in Solid-Propellant Rocket Motors. , 2010, , .		8
115	Coupled Analysis of Flow and Surface Ablation in Carbon-Carbon Rocket Nozzles. Journal of Spacecraft and Rockets, 2009, 46, 492-500.	1.3	65
116	Numerical Analysis of Three-Dimensional Flow of Supercritical Fluid in Cooling Channels. AIAA Journal, 2009, 47, 2534-2543.	1.5	90
117	Shock structure in separated nozzle flows. Shock Waves, 2009, 19, 229-237.	1.0	36
118	Numerical Analysis of Film Cooling in Advanced Rocket Nozzles. AIAA Journal, 2009, 47, 2558-2566.	1.5	37
119	Film Cooling Effect on Dual-Bell Nozzle Flow Transition. , 2009, , .		7
120	Thermochemical Erosion Analysis for Carbon-Carbon Rocket Nozzles. , 2009, , .		1
121	Investigation of Transcritical Methane Flow and Heat Transfer in Curved Cooling Channels. , 2009, , .		6
122	A model to predict the Mach reflection of the separation shock in rocket nozzles. , 2009, , 1093-1098.		1
123	Coupled Analysis of Flow and Surface Ablation in Carbon-Carbon Rocket Nozzles. , 2008, , .		5
124	Flow Analysis of Transcritical Methane in Rectangular Cooling Channels. , 2008, , .		10
125	Performance Analysis of an Infinite Array Linear Clusterd Plug Nozzle. Journal of Propulsion and Power, 2007, 23, 246-249.	1.3	3
126	A Numerical Approach for High-Temperature Flows over Ablating Surfaces. , 2007, , .		16



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127	Numerical Analysis of Flow Separation Structures in Rocket Nozzles. , 2007, , .		7
128	A Numerical Model for Supercritical Flow in Rocket Engine Applications. , 2007, , .		1
129	Numerical Parametric Analysis of Dual-Bell Nozzle Flows. AIAA Journal, 2007, 45, 640-650.	1.5	52
130	Flowfield analysis of a linear clustered plug nozzle with round-to-square modules. Aerospace Science and Technology, 2007, 11, 110-118.	2.5	20
131	Thermo-Fluid-Dynamics Analysis of Film Cooling in Overexpanded Rocket Nozzles. , 2006, , .		2
132	Role of Wall Shape on the Transition in Axisymmetric Dual-Bell Nozzles. Journal of Propulsion and Power, 2005, 21, 243-250.	1.3	57
133	Shock-Generated Vortices in Rocket Nozzles. , 2005, , .		4
134	Analysis of Three-dimensional Flow Generated by a Linear Aerospike. , 2005, , .		1
135	Effect of Wall Shape and Real Gas Properties on Dual Bell Nozzle Flowfields. , 2005, , .		7
136	Transition Between Open and Closed Wake in 3D Linear Aerospike Nozzles. , 2005, , .		8
137	Size Effects on the Transition in Dual-Bell Nozzles. , 2004, , .		3
138	Size Effects on the Performance of Liquid Rocket Engines Fed with LH/LOX, LCH4/LOX and Kerosene/LOX. , 2003, , .		0
139	Three Dimensional Features of Clustered Plug Nozzle Flows. , 2003, , .		7
140	Role of Wall Shape on the Transition in Dual-Bell Nozzles. , 2003, , .		2
141	A Multi-Block Shock-Fitting Technique to Solve Steady and Unsteady Compressible Flows. , 2003, , 217-222.		4
142	Numerical Study of Transition Between the Two Operating Modes of Dual-Bell Nozzles. , 2002, , .		9
143	Evaluation of turbulence modeling in supersonic afterbody computations. , 2001, , .		22
144	Flow analysis and methods of design for dual-bell nozzles. , 2001, , .		8

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145	Theoretical considerations on shock reflections and their implications on the evaluation of air intake performance. <i>Shock Waves</i> , 2001, 11, 151-156.	1.0	9
146	Analysis of In-Flight Behavior of Truncated Plug Nozzles. <i>Journal of Propulsion and Power</i> , 2001, 17, 809-817.	1.3	33
147	A numerical study of wake behavior in plug nozzles. , 2001, , .		2
148	Theoretical Analysis and Engineering Modeling of Flowfields in Clustered Module Plug Nozzles. <i>Journal of Propulsion and Power</i> , 1999, 15, 544-551.	1.3	29
149	Optimal supersonic intake design for air collection engines (ACE). <i>Acta Astronautica</i> , 1999, 45, 729-745.	1.7	14
150	Viscous and Inviscid Vortex Generation During Startup of Rocket Nozzles. <i>AIAA Journal</i> , 1998, 36, 809-815.	1.5	53
151	Methodology to Solve Flowfields of Plug Nozzles for Future Launchers. <i>Journal of Propulsion and Power</i> , 1998, 14, 318-326.	1.3	32
152	A Numerical Methodology to Predict Exhaust Plumes of Propulsion Nozzles. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1998, 120, 563-569.	0.8	7
153	Material-dependent catalytic recombination modeling for hypersonic flows. <i>Journal of Thermophysics and Heat Transfer</i> , 1996, 10, 131-136.	0.9	117
154	Analysis of unsteady supersonic viscous flows by a shock-fitting technique. <i>AIAA Journal</i> , 1996, 34, 1428-1434.	1.5	69