Roger Raman

List of Publications by Year
in descending order

153 papers	3,905 citations	117625 34 h-index	149698 56 g-index
165 all docs	165 docs citations	165 times ranked	1498 citing authors

#	Article	IF	Citations
1	A Coaxial Helicity Injection System for Nonsolenoidal Startup Studies on the PEGASUS-III Experiment. IEEE Transactions on Plasma Science, 2022, 50, 4015-4020.	1.3	3
2	Initial Results from High-Field-Side Transient CHI Start-Up on QUEST. Plasma and Fusion Research, 2021, 16, 2402048-2402048.	0.7	2
3	3D radiation, density, and MHD structures following neon shattered pellet injection into stable DIII-D Super H-mode discharges. Nuclear Fusion, 2021, 61, 066040.	3.5	7
4	Modeling of carbon pellets disruption mitigation in an NSTX-U plasma. Nuclear Fusion, 2021, 61, 116003.	3.5	3
5	Prototype tests of the electromagnetic particle injector-2 for fast time response disruption mitigation in tokamaks. Nuclear Fusion, 2021, 61, 126034.	3.5	8
6	Active Radiative Liquid Lithium Divertor for Handling Transient High Heat Flux Events. Journal of Fusion Energy, 2020, 39, 402-410.	1.2	3
7	Shattered pellet penetration in low and high energy plasmas on DIII-D. Nuclear Fusion, 2020, 60, 036014.	3.5	14
8	Modeling of Ablatant Deposition from Electromagnetically Driven Radiative Pellets for Disruption Mitigation Studies. Fusion Science and Technology, 2019, 75, 767-774.	1.1	2
9	Particle balance investigation with the combination of the hydrogen barrier model and rate equations of hydrogen state in long duration discharges on an all-metal plasma facing wall in QUEST. Nuclear Fusion, 2019, 59, 076007.	3.5	11
10	Estimation of fuel particle balance in steady state operation with hydrogen barrier model. Nuclear Materials and Energy, 2019, 19, 544-549.	1.3	5
11	NSTX/NSTX-U theory, modeling and analysis results. Nuclear Fusion, 2019, 59, 112007.	3.5	20
12	Application of transient CHI plasma startup to future ST and AT devices. Physics of Plasmas, 2019, 26, 032501.	1.9	2
13	Electromagnetic particle injector for fast time response disruption mitigation in tokamaks. Nuclear Fusion, 2019, 59, 016021.	3.5	14
14	Supersonic Gas Injector for Plasma Fueling in the National Spherical Torus Experiment. Fusion Science and Technology, 2019, 75, 1-17.	1.1	6
15	Application of Townsend avalanche theory to tokamak startup by coaxial helicity injection. Nuclear Fusion, 2018, 58, 016013.	3.5	17
16	Scenario development during commissioning operations on the National Spherical Torus Experiment Upgrade. Nuclear Fusion, 2018, 58, 046010.	3.5	25
17	Initial results from solenoid-free plasma start-up using Transient CHI on QUEST. Plasma Physics and Controlled Fusion, 2018, 60, 115001.	2.1	15
18	TSC Simulation of Transient CHI in New Electrode Configuration on QUEST. Plasma and Fusion Research, 2018, 13, 3402059-3402059.	0.7	0

#	Article	IF	Citations
19	Overview of NSTX Upgrade initial results and modelling highlights. Nuclear Fusion, 2017, 57, 102006.	3.5	45
20	Current Start-Up Using the New CHI System. Plasma and Fusion Research, 2017, 12, 1202020-1202020.	0.7	11
21	Time-Dependent Simulations of Fast-Wave Heated High-Non-Inductive-Fraction H-Mode Plasmas in the National Spherical Torus Experiment Upgrade. EPJ Web of Conferences, 2017, 157, 03052.	0.3	0
22	Snowflake Divertor Experiments in the DIII-D, NSTX, and NSTX-U Tokamaks Aimed at the Development of the Divertor Power Exhaust Solution. IEEE Transactions on Plasma Science, 2016, 44, 3445-3455.	1.3	14
23	Simplifying the ST and AT Concepts. Journal of Fusion Energy, 2016, 35, 34-40.	1.2	4
24	Fusion nuclear science facilities and pilot plants based on the spherical tokamak. Nuclear Fusion, 2016, 56, 106023.	3.5	119
25	Power Balance Estimation in Long Duration Discharges on QUEST. Plasma Science and Technology, 2016, 18, 1069-1075.	1.5	19
26	Massive Gas Injection Valve Development for NSTX-U. IEEE Transactions on Plasma Science, 2016, 44, 1547-1552.	1.3	6
27	Large-volume flux closure during plasmoid-mediated reconnection in coaxial helicity injection. Nuclear Fusion, 2016, 56, 044002.	3.5	17
28	Reconstruction of NSTX midplane neutral density profiles from visible imaging data. Journal of Nuclear Materials, 2015, 463, 897-901.	2.7	5
29	Development of fully non-inductive plasmas heated by medium and high-harmonic fast waves in the national spherical torus experiment upgrade. AIP Conference Proceedings, 2015, , .	0.4	0
30	Design Description for a Coaxial Helicity Injection Plasma Start-Up System for a ST-FNSF. Fusion Science and Technology, 2015, 68, 674-679.	1.1	11
31	Fast Time Response Electromagnetic Disruption Mitigation Concept. Fusion Science and Technology, 2015, 68, 797-805.	1.1	5
32	A megawatt-level 28 GHz heating system for the National Spherical Torus Experiment Upgrade. EPJ Web of Conferences, 2015, 87, 02013.	0.3	5
33	Plasmoids Formation During Simulations of Coaxial Helicity Injection in the National Spherical Torus Experiment. Physical Review Letters, 2015, 114, 205003.	7.8	46
34	An overview of recent physics results from NSTX. Nuclear Fusion, 2015, 55, 104002.	3.5	21
35	The role of MHD in 3D aspects of massive gas injection. Nuclear Fusion, 2015, 55, 073032.	3.5	28
36	Progress toward commissioning and plasma operation in NSTX-U. Nuclear Fusion, 2015, 55, 073007.	3.5	16

#	Article	IF	Citations
37	Physics of forced magnetic reconnection in coaxial helicity injection experiments in National Spherical Torus Experiment. Physics of Plasmas, 2014, 21, .	1.9	11
38	Design and operation of a fast electromagnetic inductive massive gas injection valve for NSTX-U. Review of Scientific Instruments, 2014, 85, 11E801.	1.3	9
39	Physics design of a 28 GHz electron heating system for the National Spherical Torus experiment upgrade. , 2014, , .		0
40	Solenoid-free plasma start-up in spherical tokamaks. Plasma Physics and Controlled Fusion, 2014, 56, 103001.	2.1	26
41	Design Details of the Transient CHI Plasma Start-up System on NSTX-U. IEEE Transactions on Plasma Science, 2014, 42, 2154-2160.	1.3	3
42	Advanced divertor configurations with large flux expansion. Journal of Nuclear Materials, 2013, 438, S96-S101.	2.7	24
43	Overview of physics results from the conclusive operation of the National Spherical Torus Experiment. Nuclear Fusion, 2013, 53, 104007.	3.5	53
44	Design description of the coaxial helicity injection (CHI) system on NSTX-U. , 2013, , .		0
45	Characterization of fueling NSTX H-mode plasmas diverted to a liquid lithium divertor. Journal of Nuclear Materials, 2013, 438, S488-S492.	2.7	8
46	Non-inductive plasma start-up on NSTX and projections to NSTX-U using transient CHI. Nuclear Fusion, 2013, 53, 073017.	3.5	28
47	Magnetic reconnection process in transient coaxial helicity injection. Physics of Plasmas, 2013, 20, .	1.9	23
48	Resistive magnetohydrodynamic simulations of helicity-injected startup plasmas in National Spherical Torus eXperiment. Physics of Plasmas, 2013, 20, .	1.9	13
49	Recent progress in the NSTX/NSTX-U lithium programme and prospects for reactor-relevant liquid-lithium based divertor development. Nuclear Fusion, 2013, 53, 113030.	3.5	32
50	Modification of the NSTX-U outboard and Inboard Divertor tiles for the protection of the PF-1C coils. , 2013, , .		0
51	Snowflake divertor configuration studies in National Spherical Torus Experiment. Physics of Plasmas, 2012, 19, .	1.9	67
52	Diagnostic options for radiative divertor feedback control on NSTX-U. Review of Scientific Instruments, 2012, 83, 10D716.	1.3	2
53	Overview of the physics and engineering design of NSTX upgrade. Nuclear Fusion, 2012, 52, 083015.	3.5	177
54	NSTX plasma operation with a Liquid Lithium Divertor. Fusion Engineering and Design, 2012, 87, 1724-1731.	1.9	72

#	Article	IF	Citations
55	Recent progress of NSTX lithium program and opportunities for magnetic fusion research. Fusion Engineering and Design, 2012, 87, 1770-1776.	1.9	11
56	The effect of progressively increasing lithium coatings on plasma discharge characteristics, transport, edge profiles and ELM stability in the National Spherical Torus Experiment. Nuclear Fusion, 2012, 52, 083001.	3.5	101
57	Massive Gas Injection Plans for Disruption Mitigation Studies in NSTX-U. IEEJ Transactions on Fundamentals and Materials, 2012, 132, 468-471.	0.2	0
58	Transient Coaxial Helicity Injection Plasma Start-up in NSTX and CHI Program Plans on NSTX-U. IEEJ Transactions on Fundamentals and Materials, 2012, 132, 462-467.	0.2	0
59	Overview of physics results from NSTX. Nuclear Fusion, 2011, 51, 094011.	3.5	10
60	â€œSnowflakeâ€•divertor configuration in NSTX. Journal of Nuclear Materials, 2011, 415, S365-S368.	2.7	26
61	Reduction of low-Z impurities during plasma start-up. Journal of Nuclear Materials, 2011, 415, S1017-S1020.	2.7	3
62	NSTX plasma response to lithium coated divertor. Journal of Nuclear Materials, 2011, 415, S400-S404.	2.7	32
63	Taming the plasmaâ€“material interface with the â€˜snowflakeâ€™ divertor in NSTX. Nuclear Fusion, 2011, 51, 012001.	3.5	73
64	Transient CHI start-up simulations with the TSC. Nuclear Fusion, 2011, 51, 113018.	3.5	12
65	Demonstration of 300â€‰kA CHI-startup current, coupling to transformer drive and flux savings on NSTX. Nuclear Fusion, 2011, 51, 063008.	3.5	17
66	Experimental demonstration of tokamak inductive flux saving by transient coaxial helicity injection on national spherical torus experiment. Physics of Plasmas, 2011, 18, .	1.9	21
67	Lithium coatings on NSTX plasma facing components and its effects on boundary control, core plasma performance, and operation. Fusion Engineering and Design, 2010, 85, 865-873.	1.9	35
68	Demonstration of Plasma Start-up in HIT-II and NSTX Using Transient Coaxial Helicity Injection. Journal of Fusion Energy, 2010, 29, 540-542.	1.2	0
69	Implications of NSTX lithium results for magnetic fusion research. Fusion Engineering and Design, 2010, 85, 882-889.	1.9	17
70	Demonstration of Tokamak Ohmic Flux Saving by Transient Coaxial Helicity Injection in the National Spherical Torus Experiment. Physical Review Letters, 2010, 104, 095003.	7.8	44
71	Overview of Lâ€“H power threshold studies in NSTX. Nuclear Fusion, 2010, 50, 064010.	3.5	40
72	Ramp-Up of CHI-Initiated Plasmas on NSTX. IEEE Transactions on Plasma Science, 2010, 38, 371-374.	1.3	6

#	Article	IF	Citations
73	Divertor heat flux mitigation in the National Spherical Torus Experiment. Physics of Plasmas, 2009, 16, 022501.	1.9	33
74	Ramp-up of CHI initiated plasmas on NSTX. , 2009, , .		0
75	Solenoid-free plasma startup in NSTX using transient CHI. Nuclear Fusion, 2009, 49, 065006.	3.5	19
76	REVIEW OF THE NATIONAL SPHERICAL TORUS EXPERIMENT RESEARCH RESULTS. , 2009, , .		0
77	TRANSIENT CHI START-UP IN NSTX. , 2009, , .		0
78	NIMROD EXTENDED MHD SIMULATIONS FOR DISRUPTION MITIGATION STUDIES. , 2009, , .		0
79	SOLENOID-FREE PLASMA START-UP IN HIT-II. , 2009, , .		0
80	SPHEROMAK FORMATION BY STEADY INDUCTIVE HELICITY INJECTION. , 2009, , .		0
81	Divertor heat flux mitigation in high-performance H-mode discharges in the National Spherical Torus Experiment. Nuclear Fusion, 2009, 49, 095025.	3.5	36
82	Evaporated lithium surface coatings in NSTX. Journal of Nuclear Materials, 2009, 390-391, 1000-1004.	2.7	74
83	Solenoid-free Plasma Start-up in NSTX using Transient CHI. Journal of Fusion Energy, 2009, 28, 200-202.	1.2	2
84	On the secular density rises in NBI-heated H-mode plasmas in NSTX. Journal of Nuclear Materials, 2009, 390-391, 516-519.	2.7	10
85	Transition to ELM-free improved H-mode by lithium deposition on NSTX graphite divertor surfaces. Journal of Nuclear Materials, 2009, 390-391, 764-767.	2.7	67
86	Overview of results from the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2009, 49, 104016.	3.5	41
87	Solenoid-Less Plasma Start-Up in NSTX Using Transient CHI. Fusion Science and Technology, 2009, 56, 512-517.	1.1	1
88	Plasma Start-up in HIT-II and NSTX Using Transient Coaxial Helicity Injection. Journal of Fusion Energy, 2008, 27, 96-99.	1.2	1
89	Advanced fuelling system for ITER. Fusion Engineering and Design, 2008, 83, 1368-1374.	1.9	23
90	Temperature and density characteristics of the Helicity Injected Torus-II spherical tokamak indicating closed flux sustainment using coaxial helicity injection. Physics of Plasmas, 2008, 15, 082501.	1.9	3

#	Article	IF	Citations
91	The effect of lithium surface coatings on plasma performance in the National Spherical Torus Experiment. Physics of Plasmas, 2008, 15, .	1.9	153
92	Advanced Fueling System for Steady-State Operation of a Fusion Reactor. Fusion Science and Technology, 2008, 54, 71-74.	1.1	1
93	Non-inductive solenoid-less plasma current startup in NSTX using transient CHI. Nuclear Fusion, 2007, 47, 792-799.	3.5	23
94	Transient coaxial helicity injection for solenoid-free plasma startup in HIT-II. Physics of Plasmas, 2007, 14, 022504.	1.9	12
95	Transport with reversed shear in the National Spherical Torus Experiment. Physics of Plasmas, 2007, 14, 056119.	1.9	37
96	Plasma startup in the National Spherical Torus Experiment using transient coaxial helicity injection. Physics of Plasmas, 2007, 14, 056106.	1.9	8
97	NSTX Plasma Start-Up Using Transient Coaxial Helicity Injection. Fusion Science and Technology, 2007, 52, 393-397.	1.1	3
98	Progress towards steady state at low aspect ratio on the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2007, 47, 1376-1382.	3.5	15
99	Overview of recent physics results from the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2007, 47, S645-S657.	3.5	40
100	Solenoid-free Plasma Start-up in HIT-II and NSTX using Transient CHI. Journal of Fusion Energy, 2007, 26, 159-162.	1.2	2
101	Divertor heat flux reduction and detachment experiments in NSTX. Journal of Nuclear Materials, 2007, 363-365, 432-436.	2.7	17
102	Effect of lithium PFC coatings on NSTX density control. Journal of Nuclear Materials, 2007, 363-365, 791-796.	2.7	54
103	E Ã— B Plasma Rotation and n = 1 Oscillation Observed in the NSTX-CHI Experiments. Plasma and Fusion Research, 2007, 2, 035-035.	0.7	3
104	Cross-machine comparison of resonant field amplification and resistive wall mode stabilization by plasma rotation. Physics of Plasmas, 2006, 13, 056107.	1.9	100
105	Plasma start-up using transient CHI on NSTX. , 2006, , .		0
106	New capabilities and results for the National Spherical Torus Experiment. Nuclear Fusion, 2006, 46, S565-S572.	3.5	28
107	Advanced Fueling System for Use as a Burn Control Tool in a Burning Plasma Device. Fusion Science and Technology, 2006, 50, 84-88.	1.1	7
108	Progress towards steady state on NSTX. Nuclear Fusion, 2006, 46, S22-S28.	3.5	17

#	Article	IF	Citations
109	Characterization of small, Type V edge-localized modes in the National Spherical Torus Experiment. Physics of Plasmas, 2006, 13, 092510.	1.9	33
110	Efficient Generation of Closed Magnetic Flux Surfaces in a Large Spherical Tokamak Using Coaxial Helicity Injection. Physical Review Letters, 2006, 97, 175002.	7.8	45
111	Effect of plasma shaping on performance in the National Spherical Torus Experiment. Physics of Plasmas, 2006, 13, 056122.	1.9	33
112	ELMs and the H-mode pedestal in NSTX. Journal of Nuclear Materials, 2005, 337-339, 727-731.	2.7	28
113	Development of NSTX particle control techniques. Journal of Nuclear Materials, 2005, 337-339, 495-499.	2.7	11
114	Observation of a high performance operating regime with small edge-localized modes in the National Spherical Torus Experiment. Nuclear Fusion, 2005, 45, 264-270.	3.5	53
115	H-mode pedestal, ELM and power threshold studies in NSTX. Nuclear Fusion, 2005, 45, 1066-1077.	3.5	68
116	Design, installation and performance of the new insulator for NSTX CHI experiments. , 2005, , .		0
117	Non-inductive solenoid-free plasma start-up using coaxial helicity injection. Nuclear Fusion, 2005, 45, L15-L19.	3.5	20
118	Supersonic gas injector for plasma fueling. , 2005, , .		0
119	Progress towards high performance plasmas in the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2005, 45, S168-S180.	3.5	60
120	Solenoid-free Plasma Startup in NSTX using Coaxial Helicity Injection. IEEJ Transactions on Fundamentals and Materials, 2005, 125, 895-901.	0.2	0
121	Status and Plans for the National Spherical Torus Experimental Research Facility. IEEJ Transactions on Fundamentals and Materials, 2005, 125, 868-880.	0.2	1
122	Next-step spherical torus experiment and spherical torus strategy in the course of development of fusion energy. Nuclear Fusion, 2004, 44, 452-463.	3.5	30
123	Effect of gas fuelling location on H-mode access in NSTX. Plasma Physics and Controlled Fusion, 2004, 46, A305-A313.	2.1	33
124	Experimental demonstration of plasma startup by coaxial helicity injection. Physics of Plasmas, 2004, 11, 2565-2572.	1.9	20
125	Fast neutral pressure gauges in NSTX. Review of Scientific Instruments, 2004, 75, 4347-4349.	1.3	11
126	Core fueling and edge particle flux analysis in ohmically and auxiliary heated NSTX plasmas. Journal of Nuclear Materials, 2003, 313-316, 573-578.	2.7	14

#	Article	IF	Citations
127	Progress towards high-performance, steady-state spherical torus. Plasma Physics and Controlled Fusion, 2003, 45, A335-A350.	2.1	25
128	Results of NSTX heating experiments. IEEE Transactions on Plasma Science, 2003, 31, 60-67.	1.3	2
129	Fast neutral pressure measurements in NSTX. Review of Scientific Instruments, 2003, 74, 1900-1904.	1.3	6
130	Demonstration of Plasma Startup by Coaxial Helicity Injection. Physical Review Letters, 2003, 90, 075005.	7.8	54
131	H-mode threshold and dynamics in the National Spherical Torus Experiment. Physics of Plasmas, 2003, 10, 1755-1764.	1.9	27
132	Exploration of high harmonic fast wave heating on the National Spherical Torus Experiment. Physics of Plasmas, 2003, 10, 1733-1738.	1.9	31
133	The national spherical torus experiment (NSTX) research programme and progress towards high beta, long pulse operating scenarios. Nuclear Fusion, 2003, 43, 1653-1664.	3.5	49
134	Recent results from the National Spherical Torus Experiment. Plasma Physics and Controlled Fusion, 2003, 45, 657-669.	2.1	23
135	Current drive experiments in the helicity injected torus (HIT-II). Physics of Plasmas, 2002, 9, 2006-2013.	1.9	34
136	Overview of impurity control and wall conditioning in NSTX. Journal of Nuclear Materials, 2001, 290-293, 1185-1189.	2.7	16
137	Non-inductive current generation in NSTX using coaxial helicity injection. Nuclear Fusion, 2001, 41, 1081-1086.	3.5	66
138	Overview of the initial NSTX experimental results. Nuclear Fusion, 2001, 41, 1435-1447.	3.5	49
139	Current drive experiments in the HIT-II spherical tokamak. Nuclear Fusion, 2001, 41, 679-685.	3.5	20
140	Initial results from coaxial helicity injection experiments in NSTX. Plasma Physics and Controlled Fusion, 2001, 43, 305-312.	2.1	16
141	Initial physics results from the National Spherical Torus Experiment. Physics of Plasmas, 2001, 8, 1977-1987.	1.9	46
142	Exploration of spherical torus physics in the NSTX device. Nuclear Fusion, 2000, 40, 557-561.	3.5	363
143	Compact toroid fuelling for ITER. Fusion Engineering and Design, 1998, 39-40, 977-985.	1.9	15
144	Design and Operation of a Passively Switched Repetitive Compact Toroid Plasma Accelerator. Fusion Science and Technology, 1998, 33, 252-272.	0.6	29

#	Article	IF	Citations
145	Experimental demonstration of tokamak fuelling by compact toroid injection. Nuclear Fusion, 1997, 37, 967-972.	3.5	43
146	Compact Toroid Fueling for ITER. Fusion Science and Technology, 1995, 28, 619-624.	0.6	6
147	Experimental Demonstration of Nondisruptive, Central Fueling of a Tokamak by Compact Toroid Injection. Physical Review Letters, 1994, 73, 3101-3104.	7.8	90
148	Energy balance in the CSSU device. Nuclear Fusion, 1993, 33, 1685-1694.	3.5	2
149	A simple fast pulse gas valve using a dynamic pressure differential as the primary closing mechanism. Review of Scientific Instruments, 1993, 64, 1410-1413.	1.3	15
150	Design of the Compact Toroid Fueler for Center Fueling Tokamak de Varennes. Fusion Science and Technology, 1993, 24, 239-250.	0.6	18
151	Initial results from the Coaxial Slow Source FRC device. Nuclear Fusion, 1987, 27, 1478-1488.	3.5	40
152	Making of the NSTX facility. , 0, , .		3
153	NSTX high field side gas fueling system. , 0, , .		2