Mainak Bandyopadhyay

List of Publications by Year
in descending order

81 papers	1,091 citations	623734 14 h-index	434195 31 g-index
82 all docs	82 docs citations	82 times ranked	512 citing authors

#	Article	IF	Citations
1	Artificial neural network based predictive negative hydrogen ion helicon plasma source for fusion grade large sized ion source. Engineering With Computers, 2022, 38, 347-364.	6.1	12
2	Overview of diagnostics on a small-scale RF source for fusion (ROBIN) and the one planned for the diagnostic beam for ITER. Review of Scientific Instruments, 2022, 93, 023504.	1.3	4
3	Global model study of plasma parameter variation in helicon plasma source in oxygen discharge. Physics of Plasmas, 2022, 29, 023502.	1.9	1
4	Investigation of Mode Transition and Negative Ion Production in Helicon Plasma Source in Hydrogen Discharge. Plasma Physics Reports, 2022, 48, 37-47.	0.9	0
5	Influence of high energy electrons on negative ion density in a hot cathode discharge. Physics of Plasmas, 2022, 29, 033501.	1.9	2
6	Characterization of Hydrogen Plasma in an ECR based Large Volume Plasma Chamber. Journal of Physics: Conference Series, 2022, 2244, 012055.	0.4	0
7	The feasibility of resonance induced instabilities in the magnetic filter region of low temperature plasma based negative ion sources. AIP Conference Proceedings, 2021, , .	0.4	3
8	Plasma Density Prediction for Helicon Negative Hydrogen Plasma Source Using Decision Tree and Random Forest Algorithm. Advances in Intelligent Systems and Computing, 2021, , 357-368.	0.6	3
9	Probe for in situ measurement of work function in correlation with cesium dynamics suitable for ion source applications. AIP Conference Proceedings, 2021, , .	0.4	0
10	Correction algorithm for cavity ring-down based anion density measurement in a negative ion source having continuously fed cesium vapor. AIP Conference Proceedings, 2021, , .	0.4	0
11	Prediction of negative hydrogen ion density in permanent magnet-based helicon ion source (HELEN) using deep learning techniques. AIP Conference Proceedings, 2021, , .	0.4	4
12	Input Parameter Optimization with Simulated Annealing Algorithm for Predictive HELEN-I Ion Source. Advances in Intelligent Systems and Computing, 2021, , 281-292.	0.6	0
13	Study on production and extraction of negative impurity ions in a caesiated negative ion source. Nuclear Fusion, 2020, 60, 046008.	3.5	3
14	Computational characterization of plasma transport across magnetic filter in ROBIN using PIC-MCC simulation. Fusion Engineering and Design, 2020, 151, 111402.	1.9	7
15	Effect of argon and oxygen gas concentration on mode transition and negative ion production in helicon discharge. Journal of Applied Physics, 2020, 128, 183303.	2.5	5
16	Evaluation of Heat Transfer Performance of Hypervapotron Elements in Two Phase Flow Devised in Indian test facility. Fusion Engineering and Design, 2020, 155, 111543.	1.9	2
17	Monte Carlo simulation, analytical and experimental studies on the nozzle structure of a Cs vapour delivery system for negative ion sources. Fusion Engineering and Design, 2020, 159, 111802.	1.9	2
18	Discharge properties of helicon oxygen plasma in the source and expansion chambers. Plasma Research Express, 2020, 2, 015005.	0.9	4

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19	Prediction of Axial Variation of Plasma Potential in Helicon Plasma Source Using Linear Regression Techniques. International Journal of Mathematical, Engineering and Management Sciences, 2020, 5, 1284-1299.	0.7	5
20	Technologies for the realization of large size RF sources for negative neutral beam systems for ITER. Challenges, experience and the path ahead. Nuclear Fusion, 2019, 59, 096007.	3.5	0
21	Quantification of atomic hydrogen anion density in a permanent magnet based helicon ion source (HELEN) by using pulsed ring down spectroscopy. Review of Scientific Instruments, 2019, 90, 083103.	1.3	8
22	Effect of dust particle and magnetic field on EEPF and plasma oscillation. Journal of Plasma Physics, 2019, 85, .	2.1	5
23	Design of tomographic diagnostic system for Indian Test Facility (INTF) neutral beam injector. Fusion Engineering and Design, 2019, 148, 111255.	1.9	0
24	R&D status of the Indian test facility for ITER diagnostic neutral beam characterization. Nuclear Fusion, 2019, 59, 096034.	3.5	5
25	Characterization of *in situ* work function and cesium flux measurement setup suitable for cesium seeded negative ion source applications. Nuclear Fusion, 2019, 59, 106023.	3.5	6
26	Performance evaluation of various diagnostics developed for a negative ion based neutral beam injector program in IPR. Nuclear Fusion, 2019, 59, 085001.	3.5	7
27	Characterization of hydrogen plasma in a permanent ring magnet based helicon plasma source for negative ion source research. Plasma Physics and Controlled Fusion, 2019, 61, 065003.	2.1	16
28	Spatio-temporal evolution of electric field inside a microwave discharge plasma during initial phase of ignition and its effect on power coupling. Physics of Plasmas, 2019, 26, .	1.9	6
29	A model for real time, in situ estimation of cesium coverage on metal substrate using infrared imaging under vacuum. Review of Scientific Instruments, 2019, 90, 123505.	1.3	1
30	Evaluation of beam divergence of a negative hydrogen ion beam using Doppler shift spectroscopy diagnostics. Journal of Applied Physics, 2018, 123, 043307.	2.5	9
31	Time resolved analysis algorithm for ramped Langmuir probe to study temporal evolution of plasma parameters in ROBIN. Fusion Engineering and Design, 2018, 130, 122-130.	1.9	3
32	Role of angular orientation of dipoles on work function during cesium deposition on a metal surface â€“ A phenomenological model. AIP Conference Proceedings, 2018, , .	0.4	3
33	Spectral modelling of neutral beam for Doppler shift spectroscopy diagnostics of INTF. AIP Conference Proceedings, 2018, , .	0.4	2
34	Negative hydrogen ion density measurement in a permanent magnet based helicon ion source (HELENâ€“I) using cavity ring-down spectroscopic technique. AIP Conference Proceedings, 2018, , .	0.4	3
35	Plasma characterization of a microwave discharge ion source with mirror magnetic field configuration. Review of Scientific Instruments, 2018, 89, 125112.	1.3	11
36	Influence of magnetic filter and magnetic cage in negative ion production in helicon oxygen plasma. Physics of Plasmas, 2018, 25, 123503.	1.9	6

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37	Development and characterization of a helicon plasma source. Review of Scientific Instruments, 2018, 89, 083508.	1.3	17
38	Design of a helicon plasma source for ionâ€"ion plasma production. Fusion Engineering and Design, 2017, 117, 30-38.	1.9	18
39	Indian Test Facility (INTF) and its updates. Journal of Physics: Conference Series, 2017, 823, 012001.	0.4	5
40	Development of Data Acquisition and Control System for Long Pulse Operations of Indian Test Facility of ITER DNB. IEEE Transactions on Nuclear Science, 2017, 64, 1426-1430.	2.0	8
41	System upgradation for surface mode negative ion beam extraction experiments in ROBIN. Fusion Engineering and Design, 2017, 114, 187-191.	1.9	12
42	Performance evaluation of a permanent ring magnet based helicon plasma source for negative ion source research. Review of Scientific Instruments, 2017, 88, 103509.	1.3	14
43	Development of a novel surface assisted volume negative hydrogen ion source. Scientific Reports, 2017, 7, 11078.	3.3	14
44	Indigenous Manufacturing Realization of TWIN Source and Its Auxiliary. IEEE Transactions on Plasma Science, 2017, 45, 2375-2380.	1.3	1
45	Manufacturing technology development for an â€˜angledâ€™ accelerator grid segment for DNB Beam Source. Fusion Engineering and Design, 2017, 123, 366-370.	1.9	4
46	Response to â€œComment on â€˜Droplet shaped anode double layer and electron sheath formation in magnetically constricted anodeâ€™â€•[Phys. Plasmas 23, 024701 (2016)]. Physics of Plasmas, 2016, 23, .	1.9	1
47	A technique to control cross-field diffusion of plasma across a transverse magnetic field. Physics of Plasmas, 2016, 23, 122105.	1.9	6
48	Overview of ion source characterization diagnostics in INTF. Review of Scientific Instruments, 2016, 87, 02B906.	1.3	9
49	Observation of mode transition and low-frequency oscillations in magnetically constricted anode. Physics of Plasmas, 2016, 23, 123524.	1.9	4
50	Droplet shaped anode double layer and electron sheath formation in magnetically constricted anode. Physics of Plasmas, 2016, 23, .	1.9	19
51	Conceptual design of a permanent ring magnet based helicon plasma source module intended to be used in a large size fusion grade ion source. Fusion Engineering and Design, 2016, 103, 1-7.	1.9	15
52	Analyzing and Modeling Spatial Factors for Pre-decided Route Selection Behavior: A Case Study of Fire Emergency Vehicles of Allahabad City. Advances in Intelligent Systems and Computing, 2016, , 667-676.	0.6	1
53	Indian Test Facility (INTF) - a status update. , 2015, , .		3
54	Plasma density estimation of a fusion grade ICP source through electrical parameters of the RF generator circuit. Nuclear Fusion, 2015, 55, 033017.	3.5	12

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55	Design of Data Acquisition and Control System for Indian Test Facility of Diagnostics Neutral Beam. Fusion Engineering and Design, 2015, 96-97, 961-965.	1.9	11
56	Progress in the realization of the PRIMA neutral beam test facility. Nuclear Fusion, 2015, 55, 083025.	3.5	98
57	Effect of magnetic field on dust charging and corresponding probe measurement. Physics of Plasmas, 2015, 22, .	1.9	11
58	100-kV feedthrough for the Indian Test Facility (INTF) â€" design and analysis. Journal of the Korean Physical Society, 2014, 65, 1294-1298.	0.7	6
59	GIS based processing of GPS trajectories for Link Speed Determination: Applied to Link Speed profiling of Fire Emergency Vehicles. , 2014, , .		1
60	Formalization of Entities for Agent Based Simulation Using Situation Calculus: A Specific Case Study of Fire Emergency Response. , 2014, , .		1
61	Effect of argon addition on plasma parameters and dust charging in hydrogen plasma. Journal of Applied Physics, 2014, 116, .	2.5	10
62	Studies on hydrogen plasma and dust charging in low-pressure filament discharge. Physics of Plasmas, 2014, 21, 083704.	1.9	9
63	Improvement of charged particles transport across a transverse magnetic filter field by electrostatic trapping of magnetized electrons. Physics of Plasmas, 2014, 21, 072118.	1.9	11
64	Two RF Driver-Based Negative Ion Source Experiment. IEEE Transactions on Plasma Science, 2014, 42, 624-627.	1.3	15
65	Negative ion beam extraction in ROBIN. Fusion Engineering and Design, 2013, 88, 778-782.	1.9	27
66	Formalization and Development of Logic Based Emergency Response Systems Using Situation Calculus. , 2013, , .		0
67	Multiple delivery cesium oven system for negative ion sources. Review of Scientific Instruments, 2012, 83, 02B118.	1.3	11
68	Two-RF-Driver-Based Negative Ion Source for Fusion R&D. IEEE Transactions on Plasma Science, 2012, 40, 2767-2772.	1.3	11
69	Development of CuCrZr alloy for applications in Neutral Beams. , 2011, , .		3
70	Effect of energetic electrons on dust charging in hot cathode filament discharge. Physics of Plasmas, 2011, 18, .	1.9	13
71	Study on plasma parameters and dust charging in an electrostatically plugged multicusp plasma device. Physics of Plasmas, 2011, 18, 063704.	1.9	9
72	An Indian test facility to characterise diagnostic neutral beam for ITER. Fusion Engineering and Design, 2011, 86, 732-735.	1.9	31

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73	Design optimization of the 100kV HV bushing for ITER-DNB. Fusion Engineering and Design, 2011, 86, 892-895.	1.9	10
74	Conceptual Design, Implementation and Commissioning of Data Acquisition and Control System for Negative Ion Source at IPR. , 2011, , .		4
75	RF-Plasma Source Commissioning in Indian Negative Ion Facility. AIP Conference Proceedings, 2011, , .	0.4	19
76	Cesium Delivery System for Negative Ion Source at IPR. AIP Conference Proceedings, 2011, , .	0.4	14
77	Diagnostic Neutral Beam for ITERâ€"Concept to Engineering. IEEE Transactions on Plasma Science, 2010, 38, 248-253.	1.3	60
78	Beamline Optimization for 100-keV Diagnostic Neutral Beam Injector for ITER. IEEE Transactions on Plasma Science, 2010, 38, 242-247.	1.3	24
79	Overview of the RF source development programme at IPP Garching. Nuclear Fusion, 2006, 46, S220-S238.	3.5	356
80	Simulation of negative hydrogen ion production and transport. Review of Scientific Instruments, 2004, 75, 1720-1722.	1.3	12
81	Evolution of Microwave Electric Field on Power Coupling to Plasma during Ignition Phase. , 0, , .		1