

Roberto C Mancini

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

75
papers

1,668
citations

20
h-index

39
g-index

80
ext. papers

1,789
ext. citations

3.3
avg, IF

3.71
L-index

#	Paper	IF	Citations
75	Investigating radiatively driven, magnetized plasmas with a university scale pulsed-power generator. <i>Physics of Plasmas</i> , 2022 , 29, 042107	2.1	0
74	Development and integration of photonic Doppler velocimetry as a diagnostic for radiation driven experiments on the Z-machine.. <i>Review of Scientific Instruments</i> , 2022 , 93, 043502	1.7	0
73	Solid-Density Ion Temperature from Redshifted and Double-Peaked Stark Line Shapes. <i>Physical Review Letters</i> , 2021 , 127, 205001	7.4	2
72	The design of a photoionization front experiment using the Z-Machine as a driving source and estimated measurements. <i>Physics of Plasmas</i> , 2021 , 28, 093304	2.1	1
71	Observation of ionization trends in a laboratory photoionized plasma experiment at Z. <i>Physical Review E</i> , 2021 , 104, 035202	2.4	1
70	Stark-Broadening of Ar K-Shell Lines: A Comparison between Molecular Dynamics Simulations and MERL Results. <i>Atoms</i> , 2021 , 9, 9	2.1	1
69	Magnetic field impact on the laser heating in MagLIF. <i>Physics of Plasmas</i> , 2020 , 27, 052704	2.1	7
68	X-ray heating and electron temperature of laboratory photoionized plasmas. <i>Physical Review E</i> , 2020 , 101, 051201	2.4	7
67	Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. <i>Physics of Plasmas</i> , 2020 , 27, 122709	2.1	0
66	Temperature distributions and gradients in laser-heated plasmas relevant to magnetized liner inertial fusion. <i>Physical Review E</i> , 2020 , 102, 023209	2.4	2
65	Progress on observations of interspecies ion separation in inertial-confinement-fusion implosions via imaging x-ray spectroscopy. <i>Physics of Plasmas</i> , 2019 , 26, 062702	2.1	4
64	Study of laser produced plasma in a longitudinal magnetic field. <i>Physics of Plasmas</i> , 2019 , 26, 062707	2.1	9
63	Impact of 3D effects on the characteristics of a multi-monochromatic x-ray imager. <i>Applied Optics</i> , 2019 , 58, 4753-4761	1.7	2
62	Observation and modeling of interspecies ion separation in inertial confinement fusion implosions via imaging x-ray spectroscopy. <i>Physics of Plasmas</i> , 2017 , 24, 056305	2.1	10
61	Benchmark Experiment for Photoionized Plasma Emission from Accretion-Powered X-Ray Sources. <i>Physical Review Letters</i> , 2017 , 119, 075001	7.4	20
60	Kinetic modeling of x-ray laser-driven solid Al plasmas via particle-in-cell simulation. <i>Physical Review E</i> , 2017 , 95, 063203	2.4	15
59	Systematic Fuel Cavity Asymmetries in Directly Driven Inertial Confinement Fusion Implosions. <i>Physical Review Letters</i> , 2017 , 118, 135001	7.4	20

58	Observation of interspecies ion separation in inertial-confinement-fusion implosions. <i>Europhysics Letters</i> , 2016 , 115, 65001	1.6	17
57	Development of a spectroscopic technique for simultaneous magnetic field, electron density, and temperature measurements in ICF-relevant plasmas. <i>Review of Scientific Instruments</i> , 2016 , 87, 11E558	1.7	1
56	Shell stability and conditions analyzed using a new method of extracting shell areal density maps from spectrally resolved images of direct-drive inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2016 , 23, 012709	2.1	7
55	Assessment of transient effects on the x-ray spectroscopy of implosion cores at OMEGA. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015 , 48, 224006	1.3	1
54	Understanding reliability and some limitations of the images and spectra reconstructed from a multi-monochromatic x-ray imager. <i>Review of Scientific Instruments</i> , 2015 , 86, 113505	1.7	5
53	Laboratory measurements of resistivity in warm dense plasmas relevant to the microphysics of brown dwarfs. <i>Nature Communications</i> , 2015 , 6, 8742	17.4	16
52	A higher-than-predicted measurement of iron opacity at solar interior temperatures. <i>Nature</i> , 2015 , 517, 56-9	50.4	262
51	Ion Dynamics Effect on Stark-Broadened Line Shapes: A Cross-Comparison of Various Models. <i>Atoms</i> , 2014 , 2, 299-318	2.1	38
50	Control and diagnosis of temperature, density, and uniformity in x-ray heated iron/magnesium samples for opacity measurements. <i>Physics of Plasmas</i> , 2014 , 21, 056502	2.1	21
49	ZAPP: The Z Astrophysical Plasma Properties collaboration. <i>Physics of Plasmas</i> , 2014 , 21, 056308	2.1	53
48	Multiple-view spectrally resolved x-ray imaging observations of polar-direct-drive implosions on OMEGA. <i>Physics of Plasmas</i> , 2014 , 21, 122704	2.1	5
47	Absorption spectroscopy of a laboratory photoionized plasma experiment at Z. <i>Physics of Plasmas</i> , 2014 , 21, 031203	2.1	24
46	Direct asymmetry measurement of temperature and density spatial distributions in inertial confinement fusion plasmas from pinhole space-resolved spectra. <i>Physics of Plasmas</i> , 2014 , 21, 050702	2.1	18
45	Observation of early shell-dopant mix in OMEGA direct-drive implosions and comparisons with radiation-hydrodynamic simulations. <i>Physics of Plasmas</i> , 2014 , 21, 052706	2.1	21
44	Time-resolved characterization and energy balance analysis of implosion core in shock-ignition experiments at OMEGA. <i>Physics of Plasmas</i> , 2014 , 21, 102709	2.1	7
43	Compressed shell conditions extracted from spectroscopic analysis of Ti K-shell absorption spectra with evaluation of line self-emission. <i>Physics of Plasmas</i> , 2014 , 21, 082711	2.1	9
42	Kinetic effects and nonlinear heating in intense x-ray-laser-produced carbon plasmas. <i>Physical Review E</i> , 2014 , 90, 051102	2.4	13
41	Investigation of a polychromatic tomography method for the extraction of the three-dimensional spatial structure of implosion core plasmas. <i>Physics of Plasmas</i> , 2012 , 19, 082705	2.1	20

40	Processing of spectrally resolved x-ray images of inertial confinement fusion implosion cores recorded with multimono-chromatic x-ray imagers. <i>Journal of Applied Physics</i> , 2011 , 109, 093303	2.5	19
39	Radiation hydrodynamic simulation of a photoionised plasma experiment at the Z facility. <i>Astrophysics and Space Science</i> , 2011 , 336, 189-194	1.6	4
38	Measurements of core and compressed-shell temperature and density conditions in thick-wall target implosions at the OMEGA laser facility. <i>Physical Review E</i> , 2011 , 83, 066408	2.4	16
37	Spectroscopic modeling of an argon-doped shock-ignition implosion. <i>Review of Scientific Instruments</i> , 2010 , 81, 10E307	1.7	7
36	Data processing of absorption spectra from photoionized plasma experiments at Z. <i>Review of Scientific Instruments</i> , 2010 , 81, 10E324	1.7	2
35	Al 1s-2p absorption spectroscopy of shock-wave heating and compression in laser-driven planar foil. <i>Physics of Plasmas</i> , 2009 , 16, 052702	2.1	17
34	Accretion disk dynamics, photoionized plasmas, and stellar opacities. <i>Physics of Plasmas</i> , 2009 , 16, 041001	2.1	35
33	Modeling of population kinetics of plasmas that are not in local thermodynamic equilibrium, using a versatile collisional-radiative model based on analytical rates. <i>Physical Review E</i> , 2009 , 80, 056402	2.4	48
32	Modelling, design and diagnostics for a photoionised plasma experiment. <i>Astrophysics and Space Science</i> , 2009 , 322, 117-121	1.6	6
31	Comparison of genetic-algorithm and emissivity-ratio analyses of image data from OMEGA implosion cores. <i>Review of Scientific Instruments</i> , 2008 , 79, 10E921	1.7	19
30	Analysis of time-resolved argon line spectra from OMEGA direct-drive implosions. <i>Review of Scientific Instruments</i> , 2008 , 79, 10E310	1.7	14
29	Application of fall-line mix models to understand degraded yield. <i>Physics of Plasmas</i> , 2008 , 15, 072702	2.1	17
28	Four-objective analysis including an optically thick line to extract electron temperature and density profiles in ICF implosion cores. <i>Journal of Physics: Conference Series</i> , 2008 , 112, 022014	0.3	1
27	Spectroscopic determination of temperature and density spatial profiles and mix in indirect-drive implosion cores. <i>Physical Review E</i> , 2007 , 76, 056403	2.4	26
26	Development of two mix model postprocessors for the investigation of shell mix in indirect drive implosion cores. <i>Physics of Plasmas</i> , 2007 , 14, 072705	2.1	17
25	Laser absorption, mass ablation rate, and shock heating in direct-drive inertial confinement fusion). <i>Physics of Plasmas</i> , 2007 , 14, 056305	2.1	20
24	Multiobjective method for fitting pinhole image intensity profiles of implosion cores driven by a Pareto genetic algorithm. <i>Review of Scientific Instruments</i> , 2006 , 77, 10F525	1.7	7
23	Multispectral x-ray imaging for core temperature and density maps retrieval in direct drive implosions. <i>Review of Scientific Instruments</i> , 2006 , 77, 10E303	1.7	16

22	Reconstruction of quasimonochromatic images for multispectral x-ray imaging with a pinhole array and a flat Bragg mirror. <i>Review of Scientific Instruments</i> , 2006 , 77, 083504	1.7	12
21	Dynamic hohlraum radiation hydrodynamics). <i>Physics of Plasmas</i> , 2006 , 13, 056301	2.1	55
20	Spatial structure analysis of direct-drive implosion cores at OMEGA using x-ray narrow-band core images. <i>Review of Scientific Instruments</i> , 2006 , 77, 10E320	1.7	5
19	Line Broadening Analysis of Argon X-Ray Emission from Z-Driven Implosions Cores. <i>AIP Conference Proceedings</i> , 2006 ,	0	1
18	Narrow-band x-ray imaging for core temperature and density maps retrieval of direct drive implosions 2006 ,		4
17	Multispectral x-ray imaging with a pinhole array and a flat Bragg mirror. <i>Review of Scientific Instruments</i> , 2005 , 76, 073708	1.7	39
16	Dopant radiative cooling effects in indirect-drive Ar-doped capsule implosion experiments. <i>Physical Review E</i> , 2005 , 72, 066403	2.4	29
15	Hot dense capsule-implosion cores produced by Z-pinch dynamic Hohlraum radiation. <i>Physical Review Letters</i> , 2004 , 92, 085002	7.4	91
14	Core Temperature and Density Gradients in ICF. <i>AIP Conference Proceedings</i> , 2004 ,	0	2
13	X-Ray Spectroscopy of Dense Plasmas Produced by Isochoric Heating with Ultrashort Laser Pulses. <i>AIP Conference Proceedings</i> , 2004 ,	0	3
12	Multispectral imaging of continuum emission for determination of temperature and density profiles inside implosion plasmas. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2004 , 88, 433-445	2.1	13
11	MULTI-OBJECTIVE SPECTROSCOPIC DATA ANALYSIS OF INERTIAL CONFINEMENT FUSION IMPLOSION CORES: PLASMA GRADIENT DETERMINATION. <i>Advances in Natural Computation</i> , 2004 , 341-364		2
10	Processing of multi-monochromatic x-ray images from indirect drive implosions at OMEGA. <i>Review of Scientific Instruments</i> , 2003 , 74, 1951-1953	1.7	28
9	Spectroscopy of plasmas at solid density generated by ultra-short laser pulses. <i>AIP Conference Proceedings</i> , 2000 ,	0	3
8	Isochoric Heating of Solid Aluminum by Ultrashort Laser Pulses Focused on a Tamped Target. <i>Physical Review Letters</i> , 1999 , 82, 4843-4846	7.4	167
7	Theoretical and experimental studies of laser-produced plasmas driven by high-intensity femtosecond laser pulses. <i>Physics of Plasmas</i> , 1997 , 4, 1811-1817	2.1	32
6	The dense Z-pinch program at the University of Nevada, Reno 1997 ,		19
5	Effects of ion dynamics and opacity on Stark-broadened argon line profiles. <i>Physical Review E</i> , 1996 , 53, 1042-1050	2.4	55

4	Spectroscopic analysis of Ar-doped laser-driven implosions. <i>Review of Scientific Instruments</i> , 1995 , 66, 755-757	1.7	14
3	X-ray spectroscopy of high-energy density inertial confinement fusion plasmas. <i>Physics of Fluids B</i> , 1993 , 5, 3328-3336		65
2	Time-resolved spectroscopic measurements of high density in Ar-filled microballoon implosions. <i>Physical Review Letters</i> , 1989 , 63, 267-270	7.4	42
1	Escape factors for Stark-broadened line profiles. <i>Journal of Physics B: Atomic and Molecular Physics</i> , 1987 , 20, 2975-2987		56