Riccardo Betti

List of Publications by Year
in descending order

63	4,086	126907	118850
papers	citations	33 h-index	62 g-index

64	64	64	1946
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .	1.9	521
2	Inertial-confinement fusion with lasers. Nature Physics, 2016, 12, 435-448.	16.7	508
3	Growth rates of the ablative Rayleighâ€“Taylor instability in inertial confinement fusion. Physics of Plasmas, 1998, 5, 1446-1454.	1.9	297
4	Stability Analysis of Resistive Wall Kink Modes in Rotating Plasmas. Physical Review Letters, 1995, 74, 2949-2952.	7.8	201
5	Improved performance of direct-drive inertial confinement fusion target designs with adiabat shaping using an intensity picket. Physics of Plasmas, 2003, 10, 1906-1918.	1.9	146
6	Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuteriumâ€“tritium implosions on OMEGA. Physics of Plasmas, 2014, 21, .	1.9	139
7	Deceleration phase of inertial confinement fusion implosions. Physics of Plasmas, 2002, 9, 2277-2286.	1.9	118
8	Inertial confinement fusion implosions with imposed magnetic field compression using the OMEGA Laser. Physics of Plasmas, 2012, 19, .	1.9	112
9	Tripled yield in direct-drive laser fusion through statistical modelling. Nature, 2019, 565, 581-586.	27.8	103
10	Gigabar Spherical Shock Generation on the OMEGA Laser. Physical Review Letters, 2015, 114, 045001.	7.8	100
11	Performance of direct-drive cryogenic targets on OMEGA. Physics of Plasmas, 2008, 15, .	1.9	92
12	Bubble Acceleration in the Ablative Rayleigh-Taylor Instability. Physical Review Letters, 2006, 97, 205002.	7.8	90
13	Hot-spot dynamics and deceleration-phase Rayleighâ€“Taylor instability of imploding inertial confinement fusion capsules. Physics of Plasmas, 2001, 8, 5257-5267.	1.9	87
14	Laser-induced adiabat shaping by relaxation in inertial fusion implosions. Physics of Plasmas, 2004, 11, 5-8.	1.9	87
15	A model of laser imprinting. Physics of Plasmas, 2000, 7, 2062-2068.	1.9	81
16	High-density and high-ïR fuel assembly for fast-ignition inertial confinement fusion. Physics of Plasmas, 2005, 12, 110702.	1.9	78
17	A measurable Lawson criterion and hydro-equivalent curves for inertial confinement fusion. Physics of Plasmas, 2008, 15, .	1.9	70
18	Theory of hydro-equivalent ignition for inertial fusion and its applications to OMEGA and the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	68

#	Article	IF	Citations
19	Selfâ€consistent cutoff wave number of the ablative Rayleighâ€“Taylor instability. Physics of Plasmas, 1995, 2, 3844-3851.	1.9	65
20	Generalized Measurable Ignition Criterion for Inertial Confinement Fusion. Physical Review Letters, 2010, 104, 135002.	7.8	63
21	Beta limits for the N=1 mode in rotating-toroidal-resistive plasmas surrounded by a resistive wall. Physics of Plasmas, 1998, 5, 3615-3631.	1.9	59
22	Ablative Stabilization of the Deceleration Phase Rayleigh-Taylor Instability. Physical Review Letters, 2000, 85, 4522-4525.	7.8	57
23	Theory of laser-induced adiabat shaping in inertial fusion implosions: The decaying shock. Physics of Plasmas, 2003, 10, 4448-4462.	1.9	55
24	Progress toward a self-consistent set of 1D ignition capsule metrics in ICF. Physics of Plasmas, 2018, 25, .	1.9	51
25	Selfâ€consistent stability analysis of ablation fronts with small Froude numbers. Physics of Plasmas, 1996, 3, 4665-4676.	1.9	49
26	Laser-driven magnetized liner inertial fusion. Physics of Plasmas, 2017, 24, .	1.9	49
27	Theory of laser-induced adiabat shaping in inertial fusion implosions: The relaxation method. Physics of Plasmas, 2005, 12, 042703.	1.9	48
28	Gain curves for direct-drive fast ignition at densities around 300gâˆ•cc. Physics of Plasmas, 2006, 13, 100703.	1.9	41
29	Feedout and Rayleigh-Taylor Seeding Induced by Long Wavelength Perturbations in Accelerated Planar Foils. Physical Review Letters, 1998, 81, 5560-5563.	7.8	37
30	Self-Similar Multimode Bubble-Front Evolution of the Ablative Rayleigh-Taylor Instability in Two and Three Dimensions. Physical Review Letters, 2018, 121, 185002.	7.8	35
31	Observation of Self-Similar Behavior of the 3D, Nonlinear Rayleigh-Taylor Instability. Physical Review Letters, 2005, 95, 265001.	7.8	34
32	Investigation of ion kinetic effects in direct-drive exploding-pusher implosions at the NIF. Physics of Plasmas, 2014, 21, 122712.	1.9	33
33	Laser-driven magnetized liner inertial fusion on OMEGA. Physics of Plasmas, 2017, 24, .	1.9	33
34	The physics of long- and intermediate-wavelength asymmetries of the hot spot: Compression hydrodynamics and energetics. Physics of Plasmas, 2017, 24, .	1.9	33
35	Effects of residual kinetic energy on yield degradation and ion temperature asymmetries in inertial confinement fusion implosions. Physics of Plasmas, 2018, 25, .	1.9	33
36	Three-dimensional single-mode nonlinear ablative Rayleigh-Taylor instability. Physics of Plasmas, 2016, 23, .	1.9	31

#	Article	IF	Citations
37	Improved target stability using picket pulses to increase and shape the ablator adiabat. Physics of Plasmas, 2005, 12, 056306.	1.9	29
38	A comprehensive alpha-heating model for inertial confinement fusion. Physics of Plasmas, 2018, 25, .	1.9	27
39	Radiation hydrodynamic theory of double ablation fronts in direct-drive inertial confinement fusion. Physics of Plasmas, 2009, 16, 082704.	1.9	23
40	Experimentally Inferred Fusion Yield Dependencies of OMEGA Inertial Confinement Fusion Implosions. Physical Review Letters, 2021, 127, 105001.	7.8	23
41	Hydrodynamic scaling of the deceleration-phase Rayleighâ€“Taylor instability. Physics of Plasmas, 2015, 22, .	1.9	22
42	Theory of ignition and burn propagation in inertial fusion implosions. Physics of Plasmas, 2020, 27, .	1.9	21
43	Nonlinear bubble competition of the multimode ablative Rayleighâ€“Taylor instability and applications to inertial confinement fusion. Physics of Plasmas, 2020, 27, .	1.9	21
44	Nonlinear excitation of the ablative Rayleigh-Taylor instability for all wave numbers. Physical Review E, 2018, 97, 011203.	2.1	20
45	Two mode coupling of the ablative Rayleigh-Taylor instabilities. Physics of Plasmas, 2019, 26, .	1.9	20
46	Thermonuclear ignition and the onset of propagating burn in inertial fusion implosions. Physical Review E, 2019, 99, 021201.	2.1	20
47	Axial proton probing of magnetic and electric fields inside laser-driven coils. Physics of Plasmas, 2020, 27, .	1.9	16
48	Gain curves and hydrodynamic simulations of ignition and burn for direct-drive fast-ignition fusion targets. Physics of Plasmas, 2007, 14, 062701.	1.9	15
49	A general formulation of magnetohydrodynamic stability including flow and a resistive wall. Physics of Plasmas, 2008, 15, 072503.	1.9	15
50	Scaling hot-electron generation to long-pulse, high-intensity laserâ€“solid interactions. Physics of Plasmas, 2011, 18, 056703.	1.9	15
51	Scale interactions and anisotropy in Rayleighâ€“Taylor turbulence. Journal of Fluid Mechanics, 2022, 930, .	3.4	13
52	Generation of strong magnetic fields for magnetized plasma experiments at the 1-MA pulsed power machine. Matter and Radiation at Extremes, 2021, 6, .	3.9	12
53	Application of benchmarked kinetic resistive wall mode stability codes to ITER, including additional physics. Physics of Plasmas, 2017, 24, .	1.9	8
54	Stabilization of the resistive wall mode by differentially rotating walls. Physics of Plasmas, 2001, 8, 383-386.	1.9	7

#	Article	IF	Citations
55	Two-dimensional magnetohydrodynamic simulations of poloidal flows in tokamaks and MHD pedestal. Physics of Plasmas, 2011, 18, .	1.9	7
56	Magnetic flux conservation in an imploding plasma. Physical Review E, 2018, 97, 011201.	2.1	7
57	Study of laser-driven magnetic fields with a continuous wave Faraday rotation diagnostic. Physics of Plasmas, 2020, 27, 033102.	1.9	6
58	High yields in direct-drive inertial confinement fusion using thin-ice DT liner targets. Physics of Plasmas, 2021, 28, .	1.9	5
59	Measurements of the temperature and velocity of the dense fuel layer in inertial confinement fusion experiments. Physical Review E, 2022, 105, .	2.1	5
60	Tokamak two-fluid ignition conditions. Physics of Plasmas, 2017, 24, 082504.	1.9	2
61	Jump conditions in transonic equilibria. Physics of Plasmas, 2013, 20, 042502.	1.9	1
62	Scaling Hot-Electron Generation to High-Power, Kilojoule-Class Laser-Solid Interactions. , 0, .		1
63	Analysis of limited coverage effects on areal density measurements in inertial confinement fusion implosions. Physics of Plasmas, 2022, 29, .	1.9	1