

R D Hazeltine

List of Publications by Year in descending order

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124
papers

5,638
citations

109321

35
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76900

74
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127
all docs

127
docs citations

127
times ranked

1778
citing authors

#	ARTICLE	IF	CITATIONS
1	Theory of plasma transport in toroidal confinement systems. <i>Reviews of Modern Physics</i> , 1976, 48, 239-308.	45.6	1,546
2	Plasma Transport in Toroidal Confinement Systems. <i>Physics of Fluids</i> , 1972, 15, 116.	1.4	397
3	Island bootstrap current modification of the nonlinear dynamics of the tearing mode. <i>Physics of Fluids</i> , 1986, 29, 899.	1.4	308
4	A four-field model for tokamak plasma dynamics. <i>Physics of Fluids</i> , 1985, 28, 2466.	1.4	186
5	Rotation of a toroidally confined, collisional plasma. <i>Physics of Fluids</i> , 1974, 17, 961.	1.4	181
6	Kinetic theory of tearing instability. <i>Physics of Fluids</i> , 1975, 18, 1778.	1.4	174
7	Nonlinear dynamics of magnetic islands with curvature and pressure. <i>Physics of Fluids</i> , 1985, 28, 294-302.	1.4	144
8	Recursive derivation of drift-kinetic equation. <i>Plasma Physics</i> , 1973, 15, 77-80.	0.9	138
9	Hamiltonian formulation of reduced magnetohydrodynamics. <i>Physics of Fluids</i> , 1984, 27, 886.	1.4	121
10	Self-consistent radial sheath. <i>Physics of Fluids B</i> , 1989, 1, 2031-2039.	1.7	104
11	Hamiltonian four-field model for nonlinear tokamak dynamics. <i>Physics of Fluids</i> , 1987, 30, 3204.	1.4	96
12	Collision-dominated plasma transport in toroidal confinement systems. <i>Physics of Fluids</i> , 1973, 16, 1883.	1.4	83
13	The space potential in the tokamak text. <i>Physics of Fluids B</i> , 1991, 3, 3448-3461.	1.7	80
14	Theory of anomalous tearing mode growth and the major tokamak disruption. <i>Physics of Fluids</i> , 1984, 27, 1449.	1.4	77
15	Shock formation in a poloidally rotating tokamak plasma. <i>Physics of Fluids B</i> , 1992, 4, 404-412.	1.7	71
16	Effects of orbit squeezing on ion transport in the banana regime in tokamaks. <i>Physics of Fluids B</i> , 1992, 4, 2547-2551.	1.7	71
17	Plasma transport in a torus of arbitrary aspect ratio. <i>Physics of Fluids</i> , 1973, 16, 1645.	1.4	69
18	Stability of low-shear tokamaks. <i>Physics of Fluids</i> , 1988, 31, 1217.	1.4	59

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19	A generalized reduced fluid model with finite ion-gyroradius effects. <i>Physics of Fluids</i> , 1986, 29, 1480.	1.4	55
20	The drift kinetic equation for toroidal plasmas with large mass velocities. <i>Plasma Physics</i> , 1978, 20, 673-678.	0.9	53
21	Reduced magnetohydrodynamics and the Hasegawa-Mima equation. <i>Physics of Fluids</i> , 1983, 26, 3242.	1.4	52
22	Resistive Plasma Rotation and Shock Formation in Toroidal Geometry. <i>Physics of Fluids</i> , 1971, 14, 361.	1.4	50
23	Effects of electrostatic trapping on neoclassical transport in an impure plasma. <i>Physics of Fluids</i> , 1976, 19, 1163.	1.4	49
24	Bumpy torus transport in the low collision frequency limit. <i>Physics of Fluids</i> , 1981, 24, 290.	1.4	49
25	Quasi-linear diffusion and radial transport in tokamaks. <i>Physics of Fluids</i> , 1981, 24, 1164.	1.4	48
26	New Physics in Fusion Plasma Confinement. <i>Physics Today</i> , 2002, 55, 30-36.	0.3	47
27	Tokamak Heat Transport Due to Tearing Modes. <i>Physical Review Letters</i> , 1976, 37, 102-104.	7.8	46
28	Canonical coordinates for guiding center particles. <i>Physics of Fluids B</i> , 1990, 2, 2563-2567.	1.7	45
29	Variational theory of drift and tearing eigenmodes in slab geometry. <i>Physics of Fluids</i> , 1978, 21, 1140.	1.4	43
30	A Hamiltonian electromagnetic gyrofluid model. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	43
31	Relativistic Plasma Polarizer: Impact of Temperature Anisotropy on Relativistic Transparency. <i>Physical Review Letters</i> , 2015, 115, 025002.	7.8	43
32	Unified theory of tearing modes. <i>Physics of Fluids</i> , 1979, 22, 2147.	1.4	41
33	Ion transport process around magnetic axis in tokamaks. <i>Physics of Plasmas</i> , 1997, 4, 771-777.	1.9	40
34	Magnetic Dipole Equilibrium Solution at Finite Plasma Pressure. <i>Physical Review Letters</i> , 1999, 82, 2689-2692.	7.8	40
35	Transport theory in the collisionless limit. <i>Physics of Plasmas</i> , 1998, 5, 3282-3286.	1.9	36
36	Analytic theory of the nonlinear $m=1$ tearing mode. <i>Physics of Fluids</i> , 1986, 29, 1633.	1.4	34

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37	Radiation reaction in fusion plasmas. <i>Physical Review E</i> , 2004, 70, 046407.	2.1	34
38	Kinetic theory of plasma scrape-off in a divertor tokamak. <i>Physics of Fluids</i> , 1974, 17, 2236.	1.4	33
39	Plasma transport near the separatrix of a magnetic island. <i>Physics of Plasmas</i> , 1997, 4, 2920-2927.	1.9	33
40	Kinetic and finite beta effects on the m=1 tearing instability. <i>Physics of Fluids</i> , 1978, 21, 1007.	1.4	28
41	Radiation reaction and relativistic hydrodynamics. <i>Physical Review E</i> , 2004, 69, 056406.	2.1	26
42	Effects of orbit squeezing on poloidal mass flow and bootstrap current in tokamak plasmas. <i>Physics of Plasmas</i> , 1994, 1, 3365-3368.	1.9	25
43	Neutral particle and radiation effects on Pfirsch-Schlüter fluxes near the edge. <i>Physics of Plasmas</i> , 1998, 5, 3961-3968.	1.9	24
44	Electromagnetic solitary waves in magnetized plasmas. <i>Journal of Plasma Physics</i> , 1985, 34, 103-114.	2.1	23
45	Fluid Description of Relativistic, Magnetized Plasma. <i>Astrophysical Journal</i> , 2002, 567, 1262-1271.	4.5	21
46	Isothermal tokamak. <i>Physics of Plasmas</i> , 2006, 13, 122508.	1.9	21
47	Twisting modes. <i>Physics of Fluids</i> , 1979, 22, 889.	1.4	20
48	Electron transport processes close to magnetic axis in tokamaks. <i>Physics of Plasmas</i> , 1997, 4, 1375-1378.	1.9	19
49	Fluid description of a magnetized plasma. <i>Physics of Plasmas</i> , 2002, 9, 1882-1889.	1.9	19
50	Applications of noise theory to plasma fluctuations. <i>Physical Review E</i> , 2006, 73, 065402.	2.1	19
51	Three-Dimensional Linear Transport Theory. <i>Journal of Mathematical Physics</i> , 1970, 11, 1126-1135.	1.1	18
52	Variational theory of electrical conductivity and kinetic tearing modes. <i>Physics of Fluids</i> , 1981, 24, 1655.	1.4	18
53	The effect of charge exchange on plasma flows. <i>Physics of Fluids B</i> , 1992, 4, 2675-2676.	1.7	18
54	Effect of Field Asymmetry on Neoclassical Transport in a Tokamak. <i>Physics of Fluids</i> , 1972, 15, 2211.	1.4	17

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55	Collisionless "Current-Channel" Tearing Modes. Physical Review Letters, 1978, 41, 1375-1378.	7.8	17
56	Effects of orbit squeezing on ion transport processes close to magnetic axis. Physics of Plasmas, 1997, 4, 1371-1374.	1.9	17
57	Symmetry analysis of the Grad-Shafranov equation. Physics of Plasmas, 2009, 16, 123101.	1.9	17
58	Large mode-number tearing and twisting modes. Physics of Fluids, 1979, 22, 1932.	1.4	16
59	Uniqueness and inversion of the ballooning representation. Physics of Fluids, 1981, 24, 180.	1.4	16
60	Ambipolarons: Solitary wave solutions for the radial electric field in a plasma. Physics of Fluids, 1986, 29, 69.	1.4	16
61	Effects of electrostatic trapping on neoclassical impurity transport in a collision-dominated plasma. Physics of Fluids, 1982, 25, 536.	1.4	15
62	Stabilization of the m=1 tearing mode by resonance detuning. Physics of Fluids B, 1992, 4, 2733-2736.	1.7	15
63	Global Theory of Microtearing Modes in the Tokamak Pedestal. Physical Review Letters, 2021, 126, 225001.	7.8	15
64	Inversion of the ballooning transformation. Physics of Fluids B, 1990, 2, 7-10.	1.7	14
65	Ion plateau transport near the tokamak magnetic axis. Physics of Plasmas, 1998, 5, 953-958.	1.9	14
66	Kinetic theory of flowing, magnetized plasma. Physics of Plasmas, 2005, 12, 102506.	1.9	13
67	Flow shear suppression of pedestal ion temperature gradient turbulence-A first principles theoretical framework. Plasma Physics and Controlled Fusion, 2018, 60, 084003.	2.1	13
68	Generalization of collisional fluid theory to long mean-free-path and relativistic motion. Physics of Plasmas, 2002, 9, 3341-3348.	1.9	12
69	Fluid model for relativistic, magnetized plasmas. Physics of Plasmas, 2008, 15, .	1.9	12
70	Local thermodynamics of a magnetized, anisotropic plasma. Physics of Plasmas, 2013, 20, 022506.	1.9	12
71	Fourier Transform Methods in Linear Transport Theory. Journal of Mathematical Physics, 1971, 12, 1970-1980.	1.1	11
72	Nonlinear kinetic theory of a single helicity tearing instability. Physics of Fluids, 1984, 27, 2043.	1.4	11

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73	Plasma equilibria in dipolar magnetic configurations. <i>Physics of Plasmas</i> , 2000, 7, 1831-1838.	1.9	11
74	Gyrosheath near the tokamak edge. <i>Physics of Fluids B</i> , 1993, 5, 4011-4014.	1.7	10
75	Rotation in Ohmically heated tokamaks: Experiment and theory. <i>Physics of Fluids B</i> , 1993, 5, 2485-2490.	1.7	10
76	Rotation of Tokamak Equilibria. <i>Physical Review Letters</i> , 1970, 25, 427-430.	7.8	9
77	Effects of ion dynamics on tearing modes. <i>Physics of Fluids</i> , 1980, 23, 599.	1.4	9
78	A two-dimensional kinetic model of the scrape-off layer. <i>Physics of Plasmas</i> , 1994, 1, 1882-1889.	1.9	9
79	Effects of orbit distortion on classical transport. <i>Physics of Plasmas</i> , 1998, 5, 3680-3684.	1.9	9
80	Closed fluid description of relativistic, magnetized plasma interacting with radiation field. <i>Physical Review E</i> , 2004, 70, 036404.	2.1	9
81	Plasma fluctuations as Markovian noise. <i>Physical Review E</i> , 2007, 76, 066402.	2.1	9
82	Ion mobility and transport barriers in the tokamak plasmas. <i>Physics of Fluids B</i> , 1993, 5, 4499-4501.	1.7	8
83	Analytical and numerical studies of ion mobility near the tokamak plasma edge. <i>Physics of Plasmas</i> , 1995, 2, 1996-2006.	1.9	7
84	Collisionless transport parallel to the magnetic field in a toroidal plasma. <i>Physics of Plasmas</i> , 1999, 6, 550-555.	1.9	7
85	Thermal density fluctuations and correlations in homogeneous plasmas. <i>Physics of Plasmas</i> , 2004, 11, 5430-5435.	1.9	7
86	Relativistic Petschek reconnection with pressure anisotropy in a pair-plasma. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, 403, 335-341.	4.4	7
87	A comprehensive conductivity model for drift and micro-tearing modes. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	7
88	A survey of pedestal magnetic fluctuations using gyrokinetics and a global reduced model for microtearing stability. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	7
89	Elastic Radiation in a Half-Space. <i>Journal of Mathematical Physics</i> , 1970, 11, 2546-2552.	1.1	6
90	Electron transport fluxes in potato plateau regime. <i>Physics of Plasmas</i> , 1997, 4, 4331-4332.	1.9	6

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91	Enhanced pinch effect due to the electrostatic potential. <i>Physics of Fluids B</i> , 1990, 2, 2353-2357.	1.7	6
92	Analytic bumpy torus equilibrium. <i>Physics of Fluids</i> , 1982, 25, 2022.	1.4	5
93	Effect of asymmetric sources on tokamak neoclassical transport in the plateau regime. <i>Physics of Fluids B</i> , 1990, 2, 2113-2117.	1.7	5
94	Ion orbit loss and the poloidal electric field in a tokamak. <i>Physics of Plasmas</i> , 1994, 1, 3641-3645.	1.9	5
95	Analysis of the Hermite spectrum in plasma turbulence. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	5
96	Pfirsch-Schlüter friction in present tokamak plasmas. <i>Physics of Fluids</i> , 1977, 20, 1880.	1.4	4
97	Stabilization of trapped-electron shear-Alfvén instabilities by temperature gradient. <i>Physics of Fluids</i> , 1979, 22, 2364.	1.4	4
98	Destabilization of Alfvén-resonant modes by resistivity and diamagnetic drifts. <i>Physics of Fluids</i> , 1987, 30, 4.	1.4	4
99	Kinetic and transport theory near the tokamak edge. <i>Physics of Plasmas</i> , 1996, 3, 2365-2373.	1.9	4
100	Ion Transport in Turbulent Edge Plasmas. <i>Physical Review Letters</i> , 1996, 77, 2479-2482.	7.8	4
101	Ion transport in a partially ionized impure edge plasma. <i>Physics of Plasmas</i> , 1997, 4, 4218-4226.	1.9	4
102	Plasma anisotropy and the radial particle flux in a rippled tokamak. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	4
103	Renormalization of plasma turbulence in toroidal geometry. <i>Physics of Fluids</i> , 1982, 25, 350.	1.4	3
104	Radial guiding center drifts and omnigenity in bumpy torus confinement systems. <i>Physics of Fluids</i> , 1983, 26, 1252.	1.4	3
105	Exact solutions for a system of nonlinear plasma fluid equations. <i>Physics of Fluids B</i> , 1992, 4, 831-840.	1.7	3
106	Electrostatic potential fluctuations in a Maxwellian plasma. <i>Physics of Plasmas</i> , 2006, 13, 014505.	1.9	3
107	On tokamak equilibrium. <i>Journal of Plasma Physics</i> , 1988, 40, 481-491.	2.1	2
108	Neoclassical kinetic theory near an X point: Plateau regime. <i>Physics of Plasmas</i> , 1994, 1, 548-551.	1.9	2

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109	Flux limiting due to electron impact excitation energy loss. <i>Physics of Plasmas</i> , 1996, 3, 461-467.	1.9	2
110	Fluid description of ion dynamics in a toroidally confined plasma. <i>Physics of Plasmas</i> , 2005, 12, 052302.	1.9	2
111	Plasma current resonance in asymmetric toroidal systems. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	2
112	Radial transport with perturbed magnetic field. <i>Physics of Plasmas</i> , 2015, 22, 052501.	1.9	2
113	Ambipolarity in a tokamak with magnetic field ripple. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	2
114	Effect of curvature in the magnetic shear profile on micro-tearing modes in the tokamak pedestal. <i>Physics of Plasmas</i> , 2018, 25, 062505.	1.9	2
115	Magnetic field errors in bumpy torus configurations. <i>Physics of Fluids</i> , 1984, 27, 2268.	1.4	1
116	Tearing mode growth in a regime of weak magnetic shear. <i>Physics of Fluids</i> , 1988, 31, 1161.	1.4	1
117	A practical limitation on transport by ripple-trapped ions. <i>Physics of Fluids B</i> , 1991, 3, 3198-3200.	1.7	1
118	Tokamak Edge Transport Theory. <i>Contributions To Plasma Physics</i> , 1996, 36, 177-181.	1.1	1
119	Comment on "Derivation of paleoclassical key hypothesis" [<i>Phys. Plasmas</i> 14, 040701 (2007)]. <i>Physics of Plasmas</i> , 2008, 15, 014703.	1.9	1
120	Thermal fluctuations and critical behavior in a magnetized, anisotropic plasma. <i>Physics of Plasmas</i> , 2013, 20, 122107.	1.9	1
121	Symmetries of a reduced fluid-gyrokinetic system. <i>Journal of Plasma Physics</i> , 2018, 84, .	2.1	1
122	Relating parallel and perpendicular flows of particles and heat in a magnetized toroidal plasma. <i>Physics of Plasmas</i> , 2006, 13, 094501.	1.9	0
123	Variational coordinate transformation in plasma physics. <i>Physics of Plasmas</i> , 2009, 16, 112505.	1.9	0
124	Dynamics of ambipolarity. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	0