Piet Hut

List of Publications by Year in descending order

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81 papers	8,287 citations	109137 35 h-index	95083 68 g-index
83 all docs	83 docs citations	83 times ranked	4552 citing authors

#	Article	IF	Citations
1	A hierarchical O(N log N) force-calculation algorithm. Nature, 1986, 324, 446-449.	13.7	2,950
2	Formation of massive black holes through runaway collisions in dense young star clusters. Nature, 2004, 428, 724-726.	13.7	554
3	Binaries in globular clusters. Publications of the Astronomical Society of the Pacific, 1992, 104, 981.	1.0	348
4	Dynamical Formation of Close Binary Systems in Globular Clusters. Astrophysical Journal, 2003, 591, L131-L134.	1.6	271
5	Missing Link Found? The â€œRunawayâ€•Path to Supermassive Black Holes. Astrophysical Journal, 2001, 562, L19-L22.	1.6	250
6	Extinction of species by periodic comet showers. Nature, 1984, 308, 715-717.	13.7	249
7	Stellar black holes in globular clusters. Nature, 1993, 364, 421-423.	13.7	228
8	Comet showers as a cause of mass extinctions. Nature, 1987, 329, 118-126.	13.7	225
9	Building a better leapfrog. Astrophysical Journal, 1995, 443, L93.	1.6	166
10	A multiphysics and multiscale software environment for modeling astrophysical systems. New Astronomy, 2009, 14, 369-378.	0.8	146
11	A Dynamical Model for the Globular Cluster G1. Astrophysical Journal, 2003, 589, L25-L28.	1.6	137
12	On the Central Structure of M15. Astrophysical Journal, 2003, 582, L21-L24.	1.6	128
13	Dynamical Formation of Close Binaries in Globular Clusters: Cataclysmic Variables. Astrophysical Journal, 2006, 646, L143-L146.	1.6	125
14	On the evolution of globular cluster systems. I - Present characteristics and rate of destruction in our Galaxy. Astrophysical Journal, 1988, 335, 720.	1.6	123
15	Which Globular Clusters Contain Intermediateâ€Mass Black Holes?. Astrophysical Journal, 2005, 620, 238-243.	1.6	117
16	The Ecology of Star Clusters and Intermediateâ€Mass Black Holes in the Galactic Bulge. Astrophysical Journal, 2006, 641, 319-326.	1.6	113
17	The Lives and Deaths of Star Clusters near the Galactic Center. Astrophysical Journal, 2002, 565, 265-279.	1.6	107
18	The Globular Cluster Population of X-Ray Binaries. , 1987, , 187-197.		104

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19	The formation of Kuiper-belt binaries through exchange reactions. Nature, 2004, 427, 518-520.	13.7	83
20	Dynamical Evolution of Globular Clusters. Annual Review of Astronomy and Astrophysics, 1987, 25, 565-601.	8.1	77
21	Star cluster evolution with primordial binaries. I - A comparative study. Astrophysical Journal, 1990, 362, 522.	1.6	69
22	The evolution of a primordial binary population in a globular cluster. Astrophysical Journal, 1992, 389, 527.	1.6	68
23	Binary-single-star scattering. V - Steady state binary distribution in a homogeneous static background of single stars. Astrophysical Journal, 1993, 403, 271.	1.6	68
24	Binary--Single-Star Scattering. VI. Automatic Determination of Interaction Cross Sections. Astrophysical Journal, 1996, 467, 348.	1.6	66
25	Primordial binaries and globular cluster evolution. Nature, 1989, 339, 40-42.	13.7	60
26	Binary-single-star scattering. III - Numerical experiments for equal-mass hard binaries. Astrophysical Journal, 1993, 403, 256.	1.6	56
27	Binary-single-star scattering. IV - Analytic approximations and fitting formulae for cross sections and reaction rates. Astrophysical Journal, Supplement Series, 1993, 85, 347.	3.0	55
28	How Many Young Star Clusters Exist in the Galactic Center?. Astrophysical Journal, 2001, 546, L101-L104.	1.6	53
29	White dwarfs and neutron stars in globular cluster X-ray sources. Nature, 1983, 301, 587-589.	13.7	52
30	Star cluster evolution with primordial binaries. II - Detailed analysis. Astrophysical Journal, 1991, 372, 111.	1.6	52
31	Can a neutrino-dominated Universe be rejected?. Nature, 1984, 310, 637-640.	13.7	47
32	Performance analysis of direct N-body calculations. Astrophysical Journal, Supplement Series, 1988, 68, 833.	3.0	46
33	Performance tuning of N-body codes on modern microprocessors: I. Direct integration with a hermite scheme on x86_64 architecture. New Astronomy, 2006, 12, 169-181.	0.8	44
34	How stable is an astronomical clock that can trigger mass extinctions on Earth?. Nature, 1984, 311, 638-641.	13.7	38
35	Gravothermal oscillations after core collapse in globular cluster evolution. Astrophysical Journal, 1989, 342, 814.	1.6	37
36	How stable is our vacuum?. Nature, 1983, 302, 508-509.	13.7	35

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37	Time-Symmetrized Kustaanheimo-Stiefel Regularization. Astronomical Journal, 1996, 112, 1697.	1.9	35
38	MODEST-1: Integrating stellar evolution and stellar dynamics. New Astronomy, 2003, 8, 337-370.	0.8	34
39	Star cluster evolution with primordial binaries. 3: Effect of the Galactic tidal field. Astrophysical Journal, 1994, 427, 793.	1.6	32
40	MODEST-2: a summary. New Astronomy, 2003, 8, 605-628.	0.8	31
41	The Core Radius of a Star Cluster Containing a Massive Black Hole. Publication of the Astronomical Society of Japan, 2007, 59, L11-L14.	1.0	29
42	A time-symmetric block time-step algorithm for N-body simulations. New Astronomy, 2006, 12, 124-133.	0.8	25
43	Binary Formation and Interactions with Field Stars. , 1985, , 231-249.		23
44	The Role of Binaries in the Dynamical Evolution of the Core of a Globular Cluster. Symposium - International Astronomical Union, 1996, 174, 121-130.	0.1	19
45	Unexpected formation modes of the first hard binary in core collapse. New Astronomy, 2012, 17, 272-280.	0.8	19
46	Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: a Workshop Report. Origins of Life and Evolution of Biospheres, 2019, 49, 111-145.	0.8	19
47	Gravitational N-body algorithms: A comparison between supercomputers and a highly parallel computer. Computer Physics Reports, 1989, 9, 199-246.	2.3	18
48	Rates of collapse and evaporation of globular clusters. Nature, 1992, 359, 806-808.	13.7	18
49	Star cluster ecology â€“ V. Dissection of an open star cluster: spectroscopy. Monthly Notices of the Royal Astronomical Society, 2004, 351, 473-486.	1.6	18
50	Modelling the evolution of globular star clusters. Nature, 1988, 336, 31-35.	13.7	16
51	Bottlenecks in simulations of dense stellar systems. Astrophysical Journal, 1990, 365, 208.	1.6	14
52	Is it safe to disturb the vacuum?. Nuclear Physics A, 1984, 418, 301-311.	0.6	11
53	Virtual Laboratories. Progress of Theoretical Physics Supplement, 2006, 164, 38-53.	0.2	11
54	A post-core-collapse model for the nucleus of M33. Nature, 1991, 354, 376-377.	13.7	9

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55	Dark Matter in Globular Clusters. Symposium - International Astronomical Union, 1996, 174, 303-312.	0.1	9
56	Predictions for triple stars with and without a pulsar in star clusters. Monthly Notices of the Royal Astronomical Society, 2008, 387, 815-824.	1.6	9
57	The Globular Cluster Population of X-ray Binaries. Symposium - International Astronomical Union, 1987, 125, 187-197.	0.1	8
58	Virtual Laboratories and Virtual Worlds. Proceedings of the International Astronomical Union, 2007, 3, 447-456.	0.0	8
59	A Multiphysics and Multiscale Software Environment for Modeling Astrophysical Systems. Lecture Notes in Computer Science, 2008, , 207-216.	1.0	6
60	Cometary showers and unseen solar companions (reply). Nature, 1984, 312, 380-381.	13.7	5
61	Terrestrial catastrophism: Nemesis or galaxy?. Nature, 1985, 313, 503-503.	13.7	5
62	Gravitational thermodynamics. Complexity, 1997, 3, 38-45.	0.9	5
63	The Starlab Environment for Dense Stellar Systems. Symposium - International Astronomical Union, 2003, 208, 331-342.	0.1	5
64	PSDF: Particle Stream Data Format for N-body simulations. New Astronomy, 2012, 17, 520-523.	0.8	5
65	Dense stellar systems as laboratories for fundamental physics. New Astronomy Reviews, 2010, 54, 163-172.	5.2	4
66	Few-body modes of binary formation in core collapse. Astronomy and Computing, 2013, 3-4, 35-49.	0.8	4
67	New Directions in Globular Cluster Modeling. , 1992, , 317-348.		4
68	Binary Formation and Interactions with Field Stars. Symposium - International Astronomical Union, 1985, 113, 231-249.	0.1	2
69	Joint Discussion 6 Neutron stars and black holes in star clusters. Proceedings of the International Astronomical Union, 2006, 2, 215-243.	0.0	2
70	Simulating Open Star Clusters. Astrophysics and Space Science Library, 2001, , 371-386.	1.0	2
71	The Three-Body Problem in Stellar Dynamics. , 1984, , 239-255.		1
72	Galaxies in the connection machine. Celestial Mechanics, 1988, 45, 141-147.	0.1	0

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73	A laboratory for gravitational scattering experiments. Celestial Mechanics, 1988, 45, 213-218.	0.1	0
74	Dynamics and Binary (Trans)formation in Globular Clusters. Symposium - International Astronomical Union, 1996, 165, 377-388.	0.1	0
75	Time-Symmetrized Kustaanheimo-Stiefel Regularization. Symposium - International Astronomical Union, 1996, 174, 367-368.	0.1	0
76	MODEST: Modeling Stellar Evolution and (Hydro)dynamics. Highlights of Astronomy, 2005, 13, 335-338.	0.0	0
77	Modeling dense stellar systems: background. Proceedings of the International Astronomical Union, 2006, 2, 422-423.	0.0	0
78	Stellar Dynamics of Dense Stellar Systems. Astrophysics and Space Science Library, 2001, , 29-38.	1.0	0
79	Three Body Interactions and Cataclysmic Binaries in Globular Clusters. Astrophysics and Space Science Library, 1985, , 103-106.	1.0	0
80	Galaxies in the Connection Machine. , 1989, , 141-147.		0
81	Dynamics and Binary (Trans)Formation in Globular Clusters. , 1996, , 377-388.		0