M M Hedman

List of Publications by Year
in descending order

135	4,078	109137	168136
papers	citations	35 h-index	53 g-index

138	138	138	2425
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Gravity Investigation of Saturnâ€™s Inner System with the Innovative Skimmer Concept. Planetary Science Journal, 2022, 3, 19.	1.5	1
2	Kronoseismology. VI. Reading the Recent History of Saturnâ€™s Gravity Field in Its Rings. Planetary Science Journal, 2022, 3, 61.	1.5	4
3	The Case for a New Frontiersâ€“Class Uranus Orbiter: System Science at an Underexplored and Unique World with a Mid-scale Mission. Planetary Science Journal, 2022, 3, 58.	1.5	12
4	Modeling Saturnâ€™s D68 Clumps as a Co-orbital Satellite System. Planetary Science Journal, 2021, 2, 74.	1.5	2
5	Uranusâ€™s Hidden Narrow Rings. Planetary Science Journal, 2021, 2, 107.	1.5	4
6	Evidence that a Novel Type of Satellite Wake Might Exist in Saturnâ€™s E Ring. Planetary Science Journal, 2021, 2, 127.	1.5	0
7	Neptune Odyssey: A Flagship Concept for the Exploration of the Neptuneâ€“Triton System. Planetary Science Journal, 2021, 2, 184.	1.5	11
8	Kronoseismology V: A panoply of waves in Saturnâ€™s C ring driven by high-order internal planetary oscillations. Icarus, 2021, 370, 114660.	1.1	4
9	Constraining lowâ€altitude lunar dust using the LADEEâ€UVS data. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006935.	1.5	1
10	Occultation observations of Saturn's rings with Cassini VIMS. Icarus, 2020, 344, 113356.	1.1	6
11	Unusual one-armed density waves in the Cassini Division of Saturn's rings. Icarus, 2020, 339, 113600.	1.1	0
12	Saturn's C ring and Cassini division: Particle sizes from Cassini UVIS, VIMS, and RSS occultations. Icarus, 2020, 344, 113565.	1.1	3
13	Cassini INMS constraints on the composition and latitudinal fractionation of Saturn ring rain material. Icarus, 2020, 339, 113595.	1.1	15
14	Forecasting Rates of Volcanic Activity on Terrestrial Exoplanets and Implications for Cryovolcanic Activity on Extrasolar Ocean Worlds. Publications of the Astronomical Society of the Pacific, 2020, 132, 084402.	1.0	19
15	Characterizing deposits emplaced by cryovolcanic plumes on Europa. Icarus, 2020, 343, 113667.	1.1	20
16	Photometric Analyses of Saturnâ€™s Small Moons: Aegaeon, Methone, and Pallene Are Dark; Helene and Calypso Are Bright. Astronomical Journal, 2020, 159, 129.	1.9	8
17	Retrograde-rotating Exoplanets Experience Obliquity Excitations in an Eccentricity-enabled Resonance. Planetary Science Journal, 2020, 1, 8.	1.5	4
18	Changes in a Dusty Ringlet in the Cassini Division after 2010. Planetary Science Journal, 2020, 1, 43.	1.5	1

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19	Cassini-VIMS observations of Saturnâ€™s main rings: II. A spectrophotometric study by means of Monte Carlo ray-tracing and Hapkeâ€™s theory. Icarus, 2019, 317, 242-265.	1.1	17
20	Dynamics of Multiple Bodies in a Corotation Resonance: Conserved Quantities and Relevance to Ring Arcs. Astrophysical Journal, 2019, 882, 66.	1.6	4
21	Bright clumps in the D68 ringlet near the end of the Cassini Mission. Icarus, 2019, 323, 62-75.	1.1	4
22	Uranus and Neptune missions: A study in advance of the next Planetary Science Decadal Survey. Planetary and Space Science, 2019, 177, 104680.	0.9	50
23	Seasonal structures in Saturn's dusty Roche Division correspond to periodicities of the planet's magnetosphere. Icarus, 2019, 330, 230-255.	1.1	8
24	Close-range remote sensing of Saturnâ€™s rings during Cassiniâ€™s ring-grazing orbits and Grand Finale. Science, 2019, 364, .	6.0	17
25	Using cosmogenic Lithium, Beryllium and Boron to determine the surface ages of icy objects in the outer solar system. Icarus, 2019, 330, 1-4.	1.1	4
26	Axisymmetric density waves in Saturnâ€™s rings. Monthly Notices of the Royal Astronomical Society, 2019, 485, 13-29.	1.6	7
27	The case for seasonal surface changes at Titanâ€™s lake district. Nature Astronomy, 2019, 3, 506-510.	4.2	19
28	Kronoseismology. IV. Six Previously Unidentified Waves in Saturnâ€™s Middle C Ring. Astronomical Journal, 2019, 157, 18.	1.9	16
29	Using Elliptical Fourier Descriptor Analysis (EFDA) to Quantify Titan Lake Morphology. Astronomical Journal, 2019, 158, 230.	1.9	5
30	Spatial variations in the dust-to-gas ratio of Enceladusâ€™ plume. Icarus, 2018, 305, 123-138.	1.1	15
31	A pilot investigation to constrain the presence of ring systems around transiting exoplanets. New Astronomy, 2018, 60, 88-94.	0.8	26
32	The opposition effect in Saturnâ€™s main rings as seen by Cassini ISS: 4. Correlations of the surge morphology with surface albedos and VIMS spectral properties. Icarus, 2018, 305, 324-349.	1.1	4
33	The Mysterious Periodicities of Saturn. , 2018, , 97-125.		3
34	Chemical interactions between Saturnâ€™s atmosphere and its rings. Science, 2018, 362, .	6.0	73
35	Ring Shadowing Effects on Saturn's Ionosphere: Implications for Ring Opacity and Plasma Transport. Geophysical Research Letters, 2018, 45, 10,084.	1.5	17
36	Material Flux From the Rings of Saturn Into Its Atmosphere. Geophysical Research Letters, 2018, 45, 10,093.	1.5	25

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37	Energetic Neutral and Charged Particle Measurements in the Inner Saturnian Magnetosphere During the Grand Finale Orbits of Cassini 2016/2017. Geophysical Research Letters, 2018, 45, 10,847.	1.5	8
38	A review of Morlet wavelet analysis of radial profiles of Saturn's rings. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20180046.	1.6	6
39	True polar wander of Enceladus from topographic data. Icarus, 2017, 295, 46-60.	1.1	43
40	Dust in the arcs of Methone and Anthe. Icarus, 2017, 284, 206-215.	1.1	14
41	Spatially resolved near infrared observations of Enceladusâ€™ tiger stripe eruptions from Cassini VIMS. Icarus, 2017, 292, 1-12.	1.1	10
42	Dynamical phenomena at the inner edge of the Keeler gap. Icarus, 2017, 289, 80-93.	1.1	12
43	Weighing Uranusâ€™ Moon Cressida with the Î· Ring. Astronomical Journal, 2017, 154, 153.	1.9	12
44	Ring ripples. Nature Astronomy, 2017, 1, 580-580.	4.2	0
45	Cassini microwave observations provide clues to the origin of Saturn's C ring. Icarus, 2017, 281, 297-321.	1.1	31
46	A curious ringlet that shares Prometheusâ€™ orbit but precesses like the F ring. Icarus, 2017, 281, 322-333.	1.1	2
47	Radial profiles of the Phoebe ring: A vast debris disk around Saturn. Icarus, 2016, 275, 117-131.	1.1	28
48	Observing Planetary Rings and Small Satellites with the James Webb Space Telescope: Science Justification and Observation Requirements. Publications of the Astronomical Society of the Pacific, 2016, 128, 018008.	1.0	24
49	Obliquity Variability of a Potentially Habitable Early Venus. Astrobiology, 2016, 16, 487-499.	1.5	15
50	ARE THERE MOONLETS NEAR THE URANIAN Î± AND Î² RINGS?. Astronomical Journal, 2016, 152, 211.	1.9	29
51	The weather report from IRC+10216: evolving irregular clouds envelop carbon star. Monthly Notices of the Royal Astronomical Society, 2016, 455, 3102-3109.	1.6	19
52	A new pattern in Saturnâ€™s D ring created in late 2011. Icarus, 2016, 279, 155-165.	1.1	13
53	The B-ringâ€™s surface mass density from hidden density waves: Less than meets the eye?. Icarus, 2016, 279, 109-124.	1.1	51
54	A vertical rift in Saturnâ€™s inner C ring. Icarus, 2016, 279, 78-99.	1.1	4

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55	How Janusâ€™ orbital swap affects the edge of Saturnâ€™s A ring?. Icarus, 2016, 279, 125-140.	1.1	16
56	Small particles and self-gravity wakes in Saturn's rings from UVIS and VIMS stellar occultations. Icarus, 2016, 279, 36-50.	1.1	17
57	High-angular-resolution stellar imaging with occultations from theCassinispacecraft â€“ III. Mira. Monthly Notices of the Royal Astronomical Society, 2016, 457, 1410-1418.	1.6	8
58	SATURNâ€™S G AND D RINGS PROVIDE NEARLY COMPLETE MEASURED SCATTERING PHASE FUNCTIONS OF NEARBY DEBRIS DISKS. Astrophysical Journal, 2015, 811, 67.	1.6	41
59	AN ATLAS OF BRIGHT STAR SPECTRA IN THE NEAR-INFRARED FROM CASSINI-VIMS. Astrophysical Journal, Supplement Series, 2015, 221, 30.	3.0	8
60	THE TRANSIT TRANSMISSION SPECTRUM OF A COLD GAS GIANT PLANET. Astrophysical Journal, 2015, 814, 154.	1.6	55
61	WHY ARE DENSE PLANETARY RINGS ONLY FOUND BETWEEN 8 AND 20 AU?. Astrophysical Journal Letters, 2015, 801, L33.	3.0	34
62	High angular resolution stellar imaging with occultations from the Cassini spacecraft â€“ II. Kronocyclic tomography. Monthly Notices of the Royal Astronomical Society, 2015, 449, 1760-1766.	1.6	6
63	Corrugations and eccentric spirals in Saturnâ€™s D ring: New insights into what happened at Saturn in 1983. Icarus, 2015, 248, 137-161.	1.1	10
64	Titanâ€™s atmosphere as observed by Cassini/VIMS solar occultations: CH4, CO and evidence for C2H6 absorption. Icarus, 2015, 248, 1-24.	1.1	64
65	EXPLORING OVERSTABILITIES IN SATURN'S A RING USING TWO STELLAR OCCULTATIONS. Astronomical Journal, 2014, 148, 15.	1.9	16
66	Planetary Rings. , 2014, , 883-905.		0
67	Advances in stellar imaging with occultations from the CASSINI spacecraft. , 2014, , .		1
68	Scientific rationale for Saturn×³s in situ exploration. Planetary and Space Science, 2014, 104, 29-47.	0.9	49
69	The science case for an orbital mission to Uranus: Exploring the origins and evolution of ice giant planets. Planetary and Space Science, 2014, 104, 122-140.	0.9	56
70	More Kronoseismology with Saturn's rings. Monthly Notices of the Royal Astronomical Society, 2014, 444, 1369-1388.	1.6	49
71	First observations of the Phoebe ring in optical light. Icarus, 2014, 233, 1-8.	1.1	10
72	Non-circular features in Saturnâ€™s D ring: D68. Icarus, 2014, 233, 147-162.	1.1	19

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73	Cassiniâ€“VIMS observations of Saturnâ€™s main rings: I. Spectral properties and temperature radial profiles variability with phase angle and elevation. Icarus, 2014, 241, 45-65.	1.1	24
74	Noncircular features in Saturnâ€™s rings II: The C ring. Icarus, 2014, 241, 373-396.	1.1	29
75	Noncircular features in Saturnâ€™s rings I: The edge of the B ring. Icarus, 2014, 227, 152-175.	1.1	28
76	An observed correlation between plume activity and tidal stresses on Enceladus. Nature, 2013, 500, 182-184.	13.7	136
77	Of horseshoes and heliotropes: Dynamics of dust in the Encke Gap. Icarus, 2013, 223, 252-276.	1.1	22
78	The smallest particles in Saturnâ€™s A and C Rings. Icarus, 2013, 226, 1225-1240.	1.1	19
79	Connections between spectra and structure in Saturnâ€™s main rings based on Cassini VIMS data. Icarus, 2013, 223, 105-130.	1.1	40
80	Observations of Ejecta Clouds Produced by Impacts onto Saturnâ€™s Rings. Science, 2013, 340, 460-464.	6.0	55
81	The inner small satellites of Saturn: A variety of worlds. Icarus, 2013, 226, 999-1019.	1.1	43
82	Probing the inner boundaries of Saturnâ€™s A ring with the Iapetus â^'1:0 nodal bending wave. Icarus, 2013, 224, 201-208.	1.1	16
83	The temperature and width of an active fissure on Enceladus measured with Cassini VIMS during the 14 April 2012 South Pole flyover. Icarus, 2013, 226, 1128-1137.	1.1	69
84	THE RADIAL DISTRIBUTION OF WATER ICE AND CHROMOPHORES ACROSS SATURN'S SYSTEM. Astrophysical Journal, 2013, 766, 76.	1.6	26
85	Efficiently extracting energy from cosmological neutrinos. Journal of Cosmology and Astroparticle Physics, 2013, 2013, 029-029.	1.9	5
86	High-angular-resolution stellar imaging with occultations from the Cassini spacecraft â€“ I. Observational technique. Monthly Notices of the Royal Astronomical Society, 2013, 433, 2286-2293.	1.6	9
87	COMPOSITIONS AND ORIGINS OF OUTER PLANET SYSTEMS: INSIGHTS FROM THE ROCHE CRITICAL DENSITY. Astrophysical Journal Letters, 2013, 765, L28.	3.0	33
88	KRONOSEISMOLOGY: USING DENSITY WAVES IN SATURN'S C RING TO PROBE THE PLANET'S INTERIOR. Astronomical Journal, 2013, 146, 12.	1.9	99
89	Saturnâ€™s icy satellites and rings investigated by Cassiniâ€“VIMS: III â€“ Radial compositional variability. Icarus, 2012, 220, 1064-1096.	1.1	86
90	Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets. Experimental Astronomy, 2012, 33, 753-791.	1.6	44

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91	The three-dimensional structure of Saturnâ€™s E ring. Icarus, 2012, 217, 322-338.	1.1	23
92	The brightening of Saturnâ€™s F ring. Icarus, 2012, 219, 181-193.	1.1	23
93	The Christiansen Effect in Saturnâ€™s narrow dusty rings and the spectral identification of clumps in the F ring. Icarus, 2011, 215, 695-711.	1.1	25
94	Finding the trigger to Iapetusâ€™ odd global albedo pattern: Dynamics of dust from Saturnâ€™s irregular satellites. Icarus, 2011, 215, 260-278.	1.1	43
95	The Impact of Comet Shoemaker-Levy 9 Sends Ripples Through the Rings of Jupiter. Science, 2011, 332, 711-713.	6.0	25
96	Saturnâ€™s Curiously Corrugated C Ring. Science, 2011, 332, 708-711.	6.0	32
97	PHYSICAL CHARACTERISTICS AND NON-KEPLERIAN ORBITAL MOTION OF â€œPROPELLERâ€•MOONS EMBEDDED IN SATURNâ€™S RINGS. Astrophysical Journal Letters, 2010, 718, L92-L96.	3.0	63
98	Aegaeon (Saturn LIII), a G-ring object. Icarus, 2010, 207, 433-447.	1.1	38
99	In-flight calibration of the Cassini imaging science sub-system cameras. Planetary and Space Science, 2010, 58, 1475-1488.	0.9	60
100	Self-gravity wake parameters in Saturnâ€™s A and B rings. Icarus, 2010, 206, 410-423.	1.1	32
101	THE ARCHITECTURE OF THE CASSINI DIVISION. Astronomical Journal, 2010, 139, 228-251.	1.9	52
102	AN ANALYTIC PARAMETERIZATION OF SELF-GRAVITY WAKES IN SATURN'S RINGS, WITH APPLICATION TO OCCULTATIONS AND PROPELLERS. Astronomical Journal, 2010, 139, 492-503.	1.9	16
103	An Evolving View of Saturnâ€™s Dynamic Rings. Science, 2010, 327, 1470-1475.	6.0	127
104	The spectrum of a Saturn ring spoke from Cassini/VIMS. Geophysical Research Letters, 2010, 37, .	1.5	6
105	Cassini imaging search rules out rings around Rhea. Geophysical Research Letters, 2010, 37, .	1.5	38
106	The shape and dynamics of a heliotropic dusty ringlet in the Cassini Division. Icarus, 2010, 210, 284-297.	1.1	25
107	Constraints on clade ages from fossil outgroups. Paleobiology, 2010, 36, 16-31.	1.3	53
108	Saturn's colossal ring. Nature, 2009, 461, 1064-1065.	13.7	0

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109	Three tenuous rings/arcs for three tiny moons. Icarus, 2009, 199, 378-386.	1.1	51
110	Titan solar occultation observed by Cassini/VIMS: Gas absorption and constraints on aerosol composition. Icarus, 2009, 201, 198-216.	1.1	75
111	Organizing some very tenuous things: Resonant structures in Saturn's faint rings. Icarus, 2009, 202, 260-279.	1.1	17
112	Diffuse Rings. , 2009, , 511-536.		22
113	Origin and Evolution of Saturn's Ring System. , 2009, , 537-575.		34
114	SPECTRAL OBSERVATIONS OF THE ENCELADUS PLUME WITH CASSINI-VIMS. Astrophysical Journal, 2009, 693, 1749-1762.	1.6	72
115	Identification of spectral units on Phoebe. Icarus, 2008, 193, 233-251.	1.1	32
116	A close look at Saturn's rings with Cassini VIMS. Icarus, 2008, 193, 182-212.	1.1	113
117	Moonlets and clumps in Saturn's F ring. Icarus, 2008, 194, 278-289.	1.1	54
118	First High Solar Phase Angle Observations of Rhea UsingCassiniVIMS: Upper Limits on Water Vapor and Geologic Activity. Astrophysical Journal, 2008, 680, L65-L68.	1.6	7
119	THE POPULATION OF PROPELLERS IN SATURN'S A RING. Astronomical Journal, 2008, 135, 1083-1091.	1.9	85
120	New Measurements of Fineâ€Scale CMB Polarization Power Spectra from CAPMAP at Both 40 and 90 GHz. Astrophysical Journal, 2008, 684, 771-789.	1.6	66
121	Self-Gravity Wake Structures in Saturn's A Ring Revealed byCassiniVIMS. Astronomical Journal, 2007, 133, 2624-2629.	1.9	92
122	The Source of Saturn's G Ring. Science, 2007, 317, 653-656.	6.0	59
123	Saturn's dynamic D ring. Icarus, 2007, 188, 89-107.	1.1	50
124	Cassini imaging of Saturn's rings. Icarus, 2007, 189, 14-34.	1.1	107
125	Unravelling Temporal Variability in Saturn's Spiral Density Waves: Results and Predictions. Astrophysical Journal, 2006, 651, L65-L68.	1.6	33
126	100-metre-diameter moonlets in Saturn's A ring from observations of 'propeller' structures. Nature, 2006, 440, 648-650.	13.7	112

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127	First Measurements of the Polarization of the Cosmic Microwave Background Radiation at Small Angular Scales from CAPMAP. Astrophysical Journal, 2005, 619, L127-L130.	1.6	84
128	Cosmic Microwave Background Polarimetry Using Correlation Receivers with the PIQUE and CAPMAP Experiments. Astrophysical Journal, Supplement Series, 2005, 159, 1-26.	3.0	21
129	Polarization of the Cosmic Microwave Background. American Scientist, 2005, 93, 236.	0.1	1
130	Benchmark parameters for CMB polarization experiments. Physical Review D, 2003, 67, .	1.6	142
131	Calibrating CMB polarization telescopes. AIP Conference Proceedings, 2002, , .	0.3	5
132	New Limits on the Polarized Anisotropy of the Cosmic Microwave Background at Subdegree Angular Scales. Astrophysical Journal, 2002, 573, L73-L76.	1.6	19
133	A Limit on the Polarized Anisotropy of the Cosmic Microwave Background at Subdegree Angular Scales. Astrophysical Journal, 2001, 548, L111-L114.	1.6	42
134	An Introduction to Planetary Ring Dynamics. , 0, , 30-48.		4
135	Dusty Rings. , 0, , 308-337.		6