Orkan M Umurhan

List of Publications by Year
in descending order

60 papers	3,055 citations	172457 29 h-index	155660 55 g-index
61 all docs	61 docs citations	61 times ranked	2011 citing authors

#	Article	IF	Citations
1	The Pluto system: Initial results from its exploration by New Horizons. Science, 2015, 350, aad1815.	12.6	407
2	Linear and non-linear evolution of the vertical shear instability in accretion discs. Monthly Notices of the Royal Astronomical Society, 2013, 435, 2610-2632.	4.4	290
3	The geology of Pluto and Charon through the eyes of New Horizons. Science, 2016, 351, 1284-1293.	12.6	219
4	The atmosphere of Pluto as observed by New Horizons. Science, 2016, 351, aad8866.	12.6	201
5	Initial results from the New Horizons exploration of 2014 MU ₆₉ , a small Kuiper Belt object. Science, 2019, 364, .	12.6	113
6	Reorientation of Sputnik Planitia implies a subsurface ocean on Pluto. Nature, 2016, 540, 94-96.	27.8	108
7	Mean radius and shape of Pluto and Charon from New Horizons images. Icarus, 2017, 287, 12-29.	2.5	105
8	Hydrodynamic stability of rotationally supported flows: LinearÂandÂnonlinearÂ2DÂshearing box results. Astronomy and Astrophysics, 2004, 427, 855-872.	5.1	102
9	Convection in a volatile nitrogen-ice-rich layer drives Plutoâ€™s geological vigour. Nature, 2016, 534, 82-85.	27.8	102
10	The solar nebula origin of (486958) Arrokoth, a primordial contact binary in the Kuiper Belt. Science, 2020, 367, .	12.6	79
11	The geology and geophysics of Kuiper Belt object (486958) Arrokoth. Science, 2020, 367, .	12.6	76
12	Basins, fractures and volcanoes: Global cartography and topography of Pluto from New Horizons. Icarus, 2018, 314, 400-433.	2.5	75
13	The Initial Conditions for Planet Formation: Turbulence Driven by Hydrodynamical Instabilities in Disks around Young Stars. Publications of the Astronomical Society of the Pacific, 2019, 131, 072001.	3.1	67
14	Color, composition, and thermal environment of Kuiper Belt object (486958) Arrokoth. Science, 2020, 367, .	12.6	64
15	Vortex formation in protoplanetary discs induced by the vertical shear instability. Monthly Notices of the Royal Astronomical Society, 2016, 456, 3571-3584.	4.4	57
16	Role of Interaction between Magnetic Rossby Waves and Tachocline Differential Rotation in Producing Solar Seasons. Astrophysical Journal, 2018, 853, 144.	4.5	56
17	Geological mapping of Sputnik Planitia on Pluto. Icarus, 2017, 287, 261-286.	2.5	52
18	Streaming Instability in Turbulent Protoplanetary Disks. Astrophysical Journal, 2020, 895, 4.	4.5	52

#	Article	IF	Citations
19	Sublimation as a landform-shaping process on Pluto. Icarus, 2017, 287, 320-333.	2.5	51
20	Detection of ammonia on Plutoâ€™s surface in a region of geologically recent tectonism. Science Advances, 2019, 5, eaav5731.	10.3	49
21	Properties of solid state devices with mobile ionic defects. Part I: The effects of motion, space charge and contact potential in metal|semiconductor|metal devices. Solid State Ionics, 2007, 178, 1-12.	2.7	47
22	Bladed Terrain on Pluto: Possible origins and evolution. Icarus, 2018, 300, 129-144.	2.5	47
23	Rossby Waves in Astrophysics. Space Science Reviews, 2021, 217, 1.	8.1	47
24	Recent cryovolcanism in Virgil Fossae on Pluto. Icarus, 2019, 330, 155-168.	2.5	45
25	The formation of Charonâ€™s red poles from seasonally cold-trapped volatiles. Nature, 2016, 539, 65-68.	27.8	44
26	Present and past glaciation on Pluto. Icarus, 2017, 287, 287-300.	2.5	43
27	A Buoyancyâ€“Vorticity Wave Interaction Approach to Stratified Shear Flow. Journals of the Atmospheric Sciences, 2008, 65, 2615-2630.	1.7	34
28	On the origin & thermal stability of Arrokoth's and Pluto's ices. Icarus, 2021, 356, 114072.	2.5	31
29	Breaking up is hard to do: Global cartography and topography of Pluto's mid-sized icy Moon Charon from New Horizons. Icarus, 2018, 315, 124-145.	2.5	29
30	On the stratorotational instability in the quasi-hydrostatic semigeostrophic limit. Monthly Notices of the Royal Astronomical Society, 2006, 365, 85-100.	4.4	27
31	Formation of metre-scale bladed roughness on Europaâ€™s surface by ablation of ice. Nature Geoscience, 2018, 11, 901-904.	12.9	25
32	Vorticity inversion and action-at-a-distance instability in stably stratified shear flow. Journal of Fluid Mechanics, 2011, 670, 301-325.	3.4	24
33	Interacting vorticity waves as an instability mechanism for magnetohydrodynamic shear instabilities. Journal of Fluid Mechanics, 2015, 767, 199-225.	3.4	24
34	Pluto: Pits and mantles on uplands north and east of Sputnik Planitia. Icarus, 2017, 293, 218-230.	2.5	24
35	Linear analysis of the vertical shear instability: outstanding issues and improved solutions. Astronomy and Astrophysics, 2016, 586, A33.	5.1	23
36	Modeling of ice pinnacle formation on Callisto. Journal of Geophysical Research E: Planets, 2016, 121, 21-45.	3.6	23

#	ARTICLE	IF	CITATIONS
37	Modern Fluid Dynamics for Physics and Astrophysics. Graduate Texts in Physics, 2016, , .	0.2	19
38	CRITICAL LAYERS AND PROTOPLANETARY DISK TURBULENCE. Astrophysical Journal, 2016, 830, 95.	4.5	18
39	The Geophysical Environment of (486958) Arrokothâ€"A Small Kuiper Belt Object Explored by <i>New Horizons</i>. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	18
40	Triton: Fascinating Moon, Likely Ocean World, Compelling Destination!. Planetary Science Journal, 2021, 2, 137.	3.6	15
41	A Predicted Dearth of Majority Hypervolatile Ices in Oort Cloud Comets. Planetary Science Journal, 2022, 3, 112.	3.6	15
42	Great Expectations: Plans and Predictions for New Horizons Encounter With Kuiper Belt Object 2014 MU₆₉ (â€œUltima Thuleâ€). Geophysical Research Letters, 2018, 45, 8111-8120.	4.0	14
43	Nondissipative Saturation of the Magnetorotational Instability in Thin Disks. Physical Review Letters, 2012, 109, 224501.	7.8	12
44	Migrating Scarps as a Significant Driver for Cometary Surface Evolution. Geophysical Research Letters, 2019, 46, 12794-12804.	4.0	10
45	Stellar Oscillons. Annals of the New York Academy of Sciences, 1998, 867, 298-305.	3.8	9
46	A Near-surface Temperature Model of Arrokoth. Planetary Science Journal, 2022, 3, 110.	3.6	9
47	On the mechanism of self gravitating Rossby interfacial waves in proto-stellar accretion discs. Geophysical and Astrophysical Fluid Dynamics, 2016, 110, 274-294.	1.2	8
48	Non-exponential hydrodynamical growth in density-stratified thin Keplerian discs. Monthly Notices of the Royal Astronomical Society, 2010, 406, 517-528.	4.4	6
49	Hypotheses for Triton's plumes: New analyses and future remote sensing tests. Icarus, 2022, 375, 114835.	2.5	6
50	Properties of solid state devices with significant impurity hopping conduction. Journal Physics D: Applied Physics, 2008, 41, 135106.	2.8	5
51	On the nonnormalâ€"nonlinear interaction mechanism between counter-propagating Rossby waves. Theoretical and Computational Fluid Dynamics, 2015, 29, 205-224.	2.2	5
52	Dynamics in coalescing critical layers. Journal of Fluid Mechanics, 2001, 449, 115-139.	3.4	4
53	Breathing Life Into Dead-Zones. EPJ Web of Conferences, 2013, 46, 03003.	0.3	4
54	Iâ€"V relations in nano thin semi-conductors with mobile acceptors or donors. Solid State Ionics, 2008, 179, 24-24.	2.7	3

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55	Modeling global-scale mass flows on the Lagrangian satellites of Dione and Tethys. Icarus, 2021, 369, 114612.	2.5	3
56	Detection of Radio Thermal Emission from the Kuiper Belt Object (486958) Arrokoth during the New Horizons Encounter. Planetary Science Journal, 2022, 3, 109.	3.6	3
57	Linear dynamics of weakly viscous accretion disks: a disk analog of Tollmien-Schlichting waves. Astronomy and Astrophysics, 2009, 497, 1-15.	5.1	2
58	A minimal model for vertical shear instability in protoplanetary accretion disks. Geophysical and Astrophysical Fluid Dynamics, 2021, 115, 674-695.	1.2	2
59	Reply to: Penitente formation is unlikely on Europa. Nature Geoscience, 2020, 13, 20-21.	12.9	1
60	Saturation of the magnetorotational instability by stable magnetoacoustic modes. Proceedings of the International Astronomical Union, 2012, 8, 365-366.	0.0	0