Jasper F Kok

List of Publications by Year
in descending order

83 papers	6,843 citations	66234 42 h-index	62479 80 g-index
127 all docs	127 docs citations	127 times ranked	5684 citing authors

#	Article	IF	Citations
1	The physics of wind-blown sand and dust. Reports on Progress in Physics, 2012, 75, 106901.	8.1	847
2	The size distribution of desert dust aerosols and its impact on the Earth system. Aeolian Research, 2014, 15, 53-71.	1.1	468
3	A scaling theory for the size distribution of emitted dust aerosols suggests climate models underestimate the size of the global dust cycle. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 1016-1021.	3.3	424
4	Smaller desert dust cooling effect estimated from analysis of dust size and abundance. Nature Geoscience, 2017, 10, 274-278.	5.4	306
5	Improved dust representation in the Community Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2014, 6, 541-570.	1.3	253
6	A comprehensive numerical model of steady state saltation (COMSALT). Journal of Geophysical Research, 2009, 114, .	3.3	222
7	The physics of wind-blown loess: Implications for grain size proxy interpretations in Quaternary paleoclimate studies. Earth-Science Reviews, 2016, 154, 247-278.	4.0	170
8	Global and regional importance of the direct dust-climate feedback. Nature Communications, 2018, 9, 241.	5.8	162
9	Electrostatics in Wind-Blown Sand. Physical Review Letters, 2008, 100, 014501.	2.9	158
10	An improved dust emission model â€“ Part 1: Model description and comparison against measurements. Atmospheric Chemistry and Physics, 2014, 14, 13023-13041.	1.9	150
11	Possible physical and thermodynamical evidence for liquid water at the Phoenix landing site. Journal of Geophysical Research, 2009, 114, .	3.3	137
12	Difference in the Wind Speeds Required for Initiation versus Continuation of Sand Transport on Mars: Implications for Dunes and Dust Storms. Physical Review Letters, 2010, 104, 074502.	2.9	135
13	Modeling dust as component minerals in the Community Atmosphere Model: development of framework and impact on radiative forcing. Atmospheric Chemistry and Physics, 2015, 15, 537-561.	1.9	130
14	Uncertainty in modeling dust mass balance and radiative forcing from size parameterization. Atmospheric Chemistry and Physics, 2013, 13, 10733-10753.	1.9	128
15	Pyrogenic iron: The missing link to high iron solubility in aerosols. Science Advances, 2019, 5, eaau7671.	4.7	128
16	Climate models miss most of the coarse dust in the atmosphere. Science Advances, 2020, 6, eaaz9507.	4.7	128
17	Contribution of the world's main dust source regions to the global cycle of desert dust. Atmospheric Chemistry and Physics, 2021, 21, 8169-8193.	1.9	126
18	An observationally constrained estimate of global dust aerosol optical depth. Atmospheric Chemistry and Physics, 2016, 16, 15097-15117.	1.9	121

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19	Does the size distribution of mineral dust aerosols depend on the wind speed at emission?. Atmospheric Chemistry and Physics, 2011, 11, 10149-10156.	1.9	120
20	Wind-invariant saltation heights imply linear scaling of aeolian saltation flux with shear stress. Science Advances, 2017, 3, e1602569.	4.7	116
21	Electrification of granular systems of identical insulators. Physical Review E, 2009, 79, 051304.	0.8	106
22	An improved parameterization of windâ€blown sand flux on Mars that includes the effect of hysteresis. Geophysical Research Letters, 2010, 37, .	1.5	103
23	Enhancement of the emission of mineral dust aerosols by electric forces. Geophysical Research Letters, 2006, 33, .	1.5	95
24	Aeolian saltation on Mars at low wind speeds. Journal of Geophysical Research E: Planets, 2017, 122, 2111-2143.	1.5	90
25	An improved dust emission model â€“ Part 2: Evaluation in the Community Earth System Model, with implications for the use of dust source functions. Atmospheric Chemistry and Physics, 2014, 14, 13043-13061.	1.9	86
26	Dust emission size distribution impact on aerosol budget and radiative forcing over the Mediterranean region: a regional climate model approach. Atmospheric Chemistry and Physics, 2012, 12, 10545-10567.	1.9	81
27	Improved representation of the global dust cycle using observational constraints on dust properties and abundance. Atmospheric Chemistry and Physics, 2021, 21, 8127-8167.	1.9	65
28	Reviews and syntheses: the GESAMP atmospheric iron deposition model intercomparison study. Biogeosciences, 2018, 15, 6659-6684.	1.3	63
29	The apparent roughness of a sand surface blown by wind from an analytical model of saltation. New Journal of Physics, 2012, 14, 043035.	1.2	62
30	Flux Saturation Length of Sediment Transport. Physical Review Letters, 2013, 111, 218002.	2.9	62
31	Improving simulations of fine dust surface concentrations over the western United States by optimizing the particle size distribution. Geophysical Research Letters, 2013, 40, 3270-3275.	1.5	56
32	Electrification of windâ€blown sand on Mars and its implications for atmospheric chemistry. Geophysical Research Letters, 2009, 36, .	1.5	53
33	Explosive erosion during the Phoenix landing exposes subsurface water on Mars. Icarus, 2011, 211, 172-194.	1.1	51
34	Particle Lifting Processes in Dust Devils. Space Science Reviews, 2016, 203, 347-376.	3.7	51
35	Electrical Activity and Dust Lifting on Earth, Mars, andÂBeyond. Space Science Reviews, 2008, 137, 419-434.	3.7	50
36	Distinct Thresholds for the Initiation and Cessation of Aeolian Saltation From Field Measurements. Journal of Geophysical Research F: Earth Surface, 2018, 123, 1546-1565.	1.0	50

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37	Emission of nonâ€thermal microwave radiation by a Martian dust storm. Geophysical Research Letters, 2009, 36, .	1.5	49
38	Modeling the global emission, transport and deposition of trace elements associated with mineral dust. Biogeosciences, 2015, 12, 5771-5792.	1.3	49
39	Fundamental mismatches between measurements and models in aeolian sediment transport prediction: The role of small-scale variability. Aeolian Research, 2014, 15, 245-251.	1.1	48
40	A Broad Continuum of Aeolian Impact Ripple Morphologies on Mars is Enabled by Low Wind Dynamic Pressures. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006485.	1.5	47
41	Quantifying the range of the dust direct radiative effect due to source mineralogy uncertainty. Atmospheric Chemistry and Physics, 2021, 21, 3973-4005.	1.9	47
42	Enhancement in wind-driven sand transport by electric fields. Planetary and Space Science, 2009, 57, 804-808.	0.9	45
43	Megaripple flattening due to strong winds. Geomorphology, 2011, 131, 69-84.	1.1	45
44	Can active sands generate dust particles by wind-induced processes?. Earth and Planetary Science Letters, 2019, 506, 371-380.	1.8	43
45	Climate Models and Remote Sensing Retrievals Neglect Substantial Desert Dust Asphericity. Geophysical Research Letters, 2020, 47, e2019GL086592.	1.5	41
46	High-frequency measurements of aeolian saltation flux: Field-based methodology and applications. Aeolian Research, 2018, 30, 97-114.	1.1	39
47	Improved methodologies for Earth system modelling of atmospheric soluble iron and observation comparisons using the Mechanism of Intermediate complexity for Modelling Iron (MIMI v1.0). Geoscientific Model Development, 2019, 12, 3835-3862.	1.3	39
48	Transverse instability of megaripples. Geology, 2012, 40, 459-462.	2.0	38
49	Do dust emissions from sparsely vegetated regions dominate atmospheric iron supply to the Southern Ocean?. Journal of Geophysical Research D: Atmospheres, 2017, 122, 3987-4002.	1.2	38
50	The Intermittency of Windâ€Driven Sand Transport. Geophysical Research Letters, 2019, 46, 13430-13440.	1.5	37
51	Cohesionâ€Induced Enhancement of Aeolian Saltation. Geophysical Research Letters, 2019, 46, 5566-5574.	1.5	36
52	Analytical model for flux saturation in sediment transport. Physical Review E, 2014, 89, 052213.	0.8	35
53	Mineral dust cycle in the Multiscale Online Nonhydrostatic AtmospheRe CHemistry model (MONARCH) Version 2.0. Geoscientific Model Development, 2021, 14, 6403-6444.	1.3	35
54	Mechanisms limiting the growth of aeolian megaripples. Geophysical Research Letters, 2014, 41, 858-865.	1.5	32

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55	Recent (1980 to 2015) Trends and Variability in Dailyâ€toâ€Interannual Soluble Iron Deposition from Dust, Fire, and Anthropogenic Sources. Geophysical Research Letters, 2020, 47, e2020GL089688.	1.5	31
56	Basaltic sand ripples at Eagle Crater as indirect evidence for the hysteresis effect in martian saltation. Icarus, 2014, 230, 143-150.	1.1	28
57	Fine dust emissions from active sands at coastal OceanoÂDunes,ÂCalifornia. Atmospheric Chemistry and Physics, 2019, 19, 2947-2964.	1.9	28
58	A tribute to Michael R. Raupach for contributions to aeolian fluid dynamics. Aeolian Research, 2015, 19, 37-54.	1.1	27
59	Linking the Different Diameter Types of Aspherical Desert Dust Indicates That Models Underestimate Coarse Dust Emission. Geophysical Research Letters, 2021, 48, e2020GL092054.	1.5	27
60	Fragmentation of windâ€blown snow crystals. Geophysical Research Letters, 2017, 44, 4195-4203.	1.5	25
61	Dust Constraints from joint Observational-Modelling-experiMental analysis (DustCOMM): comparison with measurements and model simulations. Atmospheric Chemistry and Physics, 2020, 20, 829-863.	1.9	25
62	Numerical Study of Shear Stress Distribution Over Sand Ripples Under Terrestrial and Martian Conditions. Journal of Geophysical Research E: Planets, 2019, 124, 175-185.	1.5	23
63	The origin of the transverse instability of aeolian megaripples. Earth and Planetary Science Letters, 2019, 512, 59-70.	1.8	22
64	Sizeâ€Independent Susceptibility to Transport in Aeolian Saltation. Journal of Geophysical Research F: Earth Surface, 2019, 124, 1658-1674.	1.0	20
65	Low Dust Generation Potential From Active Sand Grains by Wind Abrasion. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2020JF005545.	1.0	20
66	Impacts of climate and land cover variability and trends on springtime East Asian dust emission over 1982â€“2010: A modeling study. Atmospheric Environment, 2021, 254, 118348.	1.9	19
67	Quantification of the dust optical depth across spatiotemporal scales with the MIDAS global dataset (2003â€“2017). Atmospheric Chemistry and Physics, 2022, 22, 3553-3578.	1.9	19
68	Observational evidence for active dust storms on Titan at equinox. Nature Geoscience, 2018, 11, 727-732.	5.4	18
69	A miniature sensor for electrical field measurements in dusty planetary atmospheres. Journal of Physics: Conference Series, 2008, 142, 012075.	0.3	15
70	Experimental and numerical study of Sharpâ€™s shadow zone hypothesis on sand ripple wavelength. Aeolian Research, 2016, 22, 37-46.	1.1	15
71	Does a theoretical estimation of the dust size distribution at emission suggest more bioavailable iron deposition?. Geophysical Research Letters, 2012, 39, .	1.5	14
72	The fluctuation energy balance in non-suspended fluid-mediated particle transport. Physics of Fluids, 2015, 27, 013303.	1.6	13

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73	A wind tunnel study of the effect of intermediate density ratio on saltation threshold. Aeolian Research, 2020, 45, 100601.	1.1	13
74	Less atmospheric radiative heating by dust due to the synergy of coarser size and aspherical shape. Atmospheric Chemistry and Physics, 2021, 21, 16869-16891.	1.9	13
75	Improved Parameterization for the Size Distribution of Emitted Dust Aerosols Reduces Model Underestimation of Super Coarse Dust. Geophysical Research Letters, 2022, 49, .	1.5	13
76	Titanâ€™s Prevailing Circulation Might Drive Highly Intermittent, Yet Significant Sediment Transport. Geophysical Research Letters, 2022, 49, .	1.5	12
77	Aeolian Ripple Migration and Associated Creep Transport Rates. Geosciences (Switzerland), 2019, 9, 389.	1.0	11
78	Changes in the saltation flux following a stepâ€change in macroâ€roughness. Earth Surface Processes and Landforms, 2018, 43, 1871-1884.	1.2	10
79	Martian sand blowing in the wind. Nature, 2012, 485, 312-313.	13.7	9
80	The effects of electric forces on dust lifting: Preliminary studies with a numerical model. Journal of Physics: Conference Series, 2008, 142, 012047.	0.3	8
81	Electrical Activity and Dust Lifting on Earth, Mars, andÂBeyond. Space Sciences Series of ISSI, 2008, , 419-434.	0.0	5
82	Gentle Topography Increases Vertical Transport of Coarse Dust by Orders of Magnitude. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034564.	1.2	4
83	Particle Lifting Processes in Dust Devils. Space Sciences Series of ISSI, 2017, , 347-376.	0.0	2