Pekka T Verronen

List of Publications by Year
in descending order

91 papers	3,683 citations	126907 33 h-index	149698 56 g-index
117 all docs	117 docs citations	117 times ranked	2982 citing authors

#	Article	IF	Citations
1	Solar forcing for CMIP6 (v3.2). Geoscientific Model Development, 2017, 10, 2247-2302.	3.6	293
2	Impact of different energies of precipitating particles on NOx generation in the middle and upper atmosphere during geomagnetic storms. Journal of Atmospheric and Solar-Terrestrial Physics, 2009, 71, 1176-1189.	1.6	166
3	Missing driver in the Sunâ€“Earth connection from energetic electron precipitation impacts mesospheric ozone. Nature Communications, 2014, 5, 5197.	12.8	148
4	Diurnal variation of ozone depletion during the October-November 2003 solar proton events. Journal of Geophysical Research, 2005, 110, .	3.3	147
5	Composition changes after the "Halloween" solar proton event: the High Energy Particle Precipitation in the Atmosphere (HEPPA) model versus MIPAS data intercomparison study. Atmospheric Chemistry and Physics, 2011, 11, 9089-9139.	4.9	145
6	Solar proton events of Octoberâ€“November 2003: Ozone depletion in the Northern Hemisphere polar winter as seen by GOMOS/Envisat. Geophysical Research Letters, 2004, 31, .	4.0	141
7	Space Weather Effects in the Earthâ€™s Radiation Belts. Space Science Reviews, 2018, 214, 1.	8.1	121
8	Recent Results from Studies of Electric Discharges in the Mesosphere. Surveys in Geophysics, 2008, 29, 71-137.	4.6	114
9	Remote sensing space weather events: Antarcticâ€Arctic Radiationâ€belt (Dynamic) Depositionâ€VLF Atmospheric Research Konsortium network. Space Weather, 2009, 7, .	3.7	102
10	Arctic and Antarctic polar winter NOxand energetic particle precipitation in 2002â€“2006. Geophysical Research Letters, 2007, 34, .	4.0	97
11	Extreme Space Weather Events: From Cradle to Grave. Space Science Reviews, 2018, 214, 1.	8.1	97
12	Production of odd hydrogen in the mesosphere during the January 2005 solar proton event. Geophysical Research Letters, 2006, 33, .	4.0	93
13	WACCMâ€Dâ€"Whole Atmosphere Community Climate Model with Dâ€region ion chemistry. Journal of Advances in Modeling Earth Systems, 2016, 8, 954-975.	3.8	86
14	Destruction of the tertiary ozone maximum during a solar proton event. Geophysical Research Letters, 2006, 33, .	4.0	75
15	First evidence of mesospheric hydroxyl response to electron precipitation from the radiation belts. Journal of Geophysical Research, 2011, 116, .	3.3	75
16	Mesospheric ozone destruction by highâ€energy electron precipitation associated with pulsating aurora. Journal of Geophysical Research D: Atmospheres, 2016, 121, 11,852.	3.3	69
17	A model providing longâ€term data sets of energetic electron precipitation during geomagnetic storms. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,520.	3.3	63
18	Nighttime ozone profiles in the stratosphere and mesosphere by the Global Ozone Monitoring by Occultation of Stars on Envisat. Journal of Geophysical Research, 2006, 111, .	3.3	55

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19	HEPPA-II modelâ€"measurement intercomparison project: EPP indirect effects during the dynamically perturbed NH winter 2008â€"2009. Atmospheric Chemistry and Physics, 2017, 17, 3573-3604.	4.9	55
20	Precipitating radiation belt electrons and enhancements of mesospheric hydroxyl during 2004â€"2009. Journal of Geophysical Research, 2012, 117, .	3.3	54
21	Contrasting the responses of three different groundâ€based instruments to energetic electron precipitation. Radio Science, 2012, 47, .	1.6	53
22	Modelling the effects of the October 1989 solar proton event on mesospheric odd nitrogen using a detailed ion and neutral chemistry model. Annales Geophysicae, 2002, 20, 1967-1976.	1.6	52
23	Substormâ€induced energetic electron precipitation: Impact on atmospheric chemistry. Geophysical Research Letters, 2015, 42, 8172-8176.	4.0	51
24	Parameterisation of the chemical effect of sprites in the middle atmosphere. Annales Geophysicae, 2008, 26, 13-27.	1.6	49
25	The effects of hardâ€spectra solar proton events on the middle atmosphere. Journal of Geophysical Research, 2008, 113, .	3.3	47
26	Analysis and parameterisation of ionic reactions affecting middle atmospheric HO_x and NO_y during solar proton events. Annales Geophysicae, 2013, 31, 909-956.	1.6	46
27	Dynamic geomagnetic rigidity cutoff variations during a solar proton event. Journal of Geophysical Research, 2006, 111, .	3.3	43
28	Longitudinal hotspots in the mesospheric OH variations due to energetic electron precipitation. Atmospheric Chemistry and Physics, 2014, 14, 1095-1105.	4.9	40
29	Ionospheric evidence of thermosphere-to-stratosphere descent of polar NOX. Geophysical Research Letters, 2006, 33, .	4.0	39
30	About the increase of HNO₃ in the stratopause region during the Halloween 2003 solar proton event. Geophysical Research Letters, 2008, 35, .	4.0	39
31	Mesosphere-to-stratosphere descent of odd nitrogen in Februaryâ€"March 2009 after sudden stratospheric warming. Atmospheric Chemistry and Physics, 2011, 11, 4645-4655.	4.9	39
32	Polar Ozone Response to Energetic Particle Precipitation Over Decadal Time Scales: The Role of Mediumâ€Energy Electrons. Journal of Geophysical Research D: Atmospheres, 2018, 123, 607-622.	3.3	38
33	An Updated Model Providing Longâ€Term Data Sets of Energetic Electron Precipitation, Including Zonal Dependence. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9891-9915.	3.3	37
34	Penetration of MeV electrons into the mesosphere accompanying pulsating aurorae. Scientific Reports, 2021, 11, 13724.	3.3	37
35	Nitric acid enhancements in the mesosphere during the January 2005 and December 2006 solar proton events. Journal of Geophysical Research, 2011, 116, .	3.3	36
36	Modeling polar ionospheric effects during the October-November 2003 solar proton events. Radio Science, 2006, 41, n/a-n/a.	1.6	32

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37	WACCMâ€Ðâ€"Improved modeling of nitric acid and active chlorine during energetic particle precipitation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 10,328.	3.3	32
38	Spatio-temporal observations of the tertiary ozone maximum. Atmospheric Chemistry and Physics, 2009, 9, 4439-4445.	4.9	29
39	Latitudinal extent of the January 2005 solar proton event in the Northern Hemisphere from satellite observations of hydroxyl. Annales Geophysicae, 2007, 25, 2203-2215.	1.6	27
40	Observed effects of solar proton events and sudden stratospheric warmings on odd nitrogen and ozone in the polar middle atmosphere. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6837-6848.	3.3	27
41	Global measurement of the mesospheric sodium layer by the star occultation instrument GOMOS. Geophysical Research Letters, 2004, 31, .	4.0	26
42	Atmospheric impact of the Carrington event solar protons. Journal of Geophysical Research, 2008, 113, .	3.3	25
43	Lower-thermosphereâ€"ionosphere (LTI) quantities: current status of measuring techniques and models. Annales Geophysicae, 2021, 39, 189-237.	1.6	25
44	Lightning-driven inner radiation belt energy deposition into the atmosphere: implications for ionisation-levels and neutral chemistry. Annales Geophysicae, 2007, 25, 1745-1757.	1.6	25
45	Description and validation of a limb scatter retrieval method for Odin/OSIRIS. Journal of Geophysical Research, 2008, 113, .	3.3	24
46	Polar-night O₃, NO₂ and NO₃ distributions during sudden stratospheric warmings in 2003â€"2008 as seen by GOMOS/Envisat. Atmospheric Chemistry and Physics, 2012, 12, 1051-1066.	4.9	24
47	Effects of meteoric smoke particles on the <i>D</i> region ion chemistry. Journal of Geophysical Research: Space Physics, 2015, 120, 10,823.	2.4	23
48	Relativistic Electron Microburst Events: Modeling the Atmospheric Impact. Geophysical Research Letters, 2018, 45, 1141-1147.	4.0	23
49	A comparison of night-time GOMOS and MIPAS ozone profiles in the stratosphere and mesosphere. Advances in Space Research, 2005, 36, 958-966.	2.6	22
50	Storm time, shortâ€lived bursts of relativistic electron precipitation detected by subionospheric radio wave propagation. Journal of Geophysical Research, 2007, 112, .	3.3	22
51	Observations and Modeling of Increased Nitric Oxide in the Antarctic Polar Middle Atmosphere Associated With Geomagnetic Stormâ€Ðriven Energetic Electron Precipitation. Journal of Geophysical Research: Space Physics, 2018, 123, 6009-6025.	2.4	22
52	Comparison of modeled and observed effects of radiation belt electron precipitation on mesospheric hydroxyl and ozone. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,419.	3.3	21
53	Transport versus energetic particle precipitation: Northern polar stratospheric NO x and ozone in January-March 2012. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6085-6100.	3.3	21
54	The atmospheric implications of radiation belt remediation. Annales Geophysicae, 2006, 24, 2025-2041.	1.6	20

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55	Energetic electron precipitation and auroral morphology at the substorm recovery phase. Journal of Geophysical Research: Space Physics, 2017, 122, 6508-6527.	2.4	20
56	Contribution of proton and electron precipitation to the observed electron concentration in Octoberâ€"November 2003 and September 2005. Annales Geophysicae, 2015, 33, 381-394.	1.6	17
57	Effects of D-region RF heating studied with the SodankylÃ Ion Chemistry model. Annales Geophysicae, 2005, 23, 1575-1583.	1.6	16
58	Sunset transition of negative charge in the D-region ionosphere during high-ionization conditions. Annales Geophysicae, 2006, 24, 187-202.	1.6	16
59	Influence of a Carrington-like event on the atmospheric chemistry, temperature and dynamics. Atmospheric Chemistry and Physics, 2012, 12, 8679-8686.	4.9	16
60	<i>D</i>-region ionâ€"neutral coupled chemistry (SodankylÃ Ion Chemistry,) Tj ETQq0 0 0 rgBT /Overlock WACCM-rSIC. Geoscientific Model Development, 2016, 9, 3123-3136.	3.6	16
61	HEPPA III Intercomparison Experiment on Electron Precipitation Impacts: 1. Estimated Ionization Rates During a Geomagnetic Active Period in April 2010. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	16
62	Technical Note: Continuity of MIPAS-ENVISAT operational ozone data quality from full- to reduced-spectral-resolution operation mode. Atmospheric Chemistry and Physics, 2008, 8, 2201-2212.	4.9	15
63	Citizen Scientists Discover a New Auroral Form: Dunes Provide Insight Into the Upper Atmosphere. AGU Advances, 2020, 1, e2019AV000133.	5.4	14
64	Combined THEMIS and groundâ€based observations of a pair of substormâ€associated electron precipitation events. Journal of Geophysical Research, 2012, 117, .	3.3	13
65	Enhancement of odd nitrogen modifies mesospheric ozone chemistry during polar winter. Geophysical Research Letters, 2015, 42, 10,445.	4.0	13
66	Improved dynamic geomagnetic rigidity cutoff modeling: Testing predictive accuracy. Journal of Geophysical Research, 2007, 112, .	3.3	12
67	Mesospheric Nitric Acid Enhancements During Energetic Electron Precipitation Events Simulated by WACCMâ€D. Journal of Geophysical Research D: Atmospheres, 2018, 123, 6984-6998.	3.3	12
68	Statistical comparison of night-time NO2 observations in 2003â€"2006 from GOMOS and MIPAS instruments. Advances in Space Research, 2009, 43, 1918-1925.	2.6	10
69	Retrieval of ozone profiles from GOMOS limb scattered measurements. Atmospheric Measurement Techniques, 2011, 4, 659-667.	3.1	10
70	Improving the twilight model for polar cap absorption nowcasts. Space Weather, 2016, 14, 950-972.	3.7	10
71	Heppa III Intercomparison Experiment on Electron Precipitation Impacts: 2. Modelâ€Measurement Intercomparison of Nitric Oxide (NO) During a Geomagnetic Storm in April 2010. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	10
72	Electron Precipitation From the Outer Radiation Belt During the St. Patrick's Day Storm 2015: Observations, Modeling, and Validation. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027725.	2.4	9

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73	Linkages Between the Radiation Belts, Polar Atmosphere and Climate: Electron Precipitation Through Wave Particle Interactions. , 2016, , 354-376.		9
74	Case study of the mesospheric and lower thermospheric effects of solar X-ray flares: coupled ion-neutral modelling and comparison with EISCAT and riometer measurements. Annales Geophysicae, 2008, 26, 2311-2321.	1.6	8
75	Cosmic Noise Absorption During Solar Proton Events in WACCMâ€Ð and Riometer Observations. Journal of Geophysical Research: Space Physics, 2019, 124, 1361-1376.	2.4	8
76	Simulated seasonal impact on middle atmospheric ozone from high-energy electron precipitation related to pulsating aurorae. Annales Geophysicae, 2021, 39, 883-897.	1.6	8
77	The structure of expanded mercury. Journal of Physics Condensed Matter, 1998, 10, 8147-8153.	1.8	7
78	Long-term solar activity and its implications to the heliosphere, geomagnetic activity, and the Earthâ€™s climate. Journal of Space Weather and Space Climate, 2013, 3, A21.	3.3	6
79	Is there a direct solar proton impact on lower-stratospheric ozone?. Atmospheric Chemistry and Physics, 2020, 20, 14969-14982.	4.9	6
80	Statistical response of middle atmosphere composition to solar proton events in WACCM-D simulations: the importance of lower ionospheric chemistry. Atmospheric Chemistry and Physics, 2020, 20, 8923-8938.	4.9	6
81	Magnetic-local-time dependency of radiation belt electron precipitation: impact on ozone in the polar middle atmosphere. Annales Geophysicae, 2020, 38, 833-844.	1.6	5
82	Active Precipitation of Radiation Belt Electrons using Rocket Exhaust Driven Amplification (REDA) of Manâ€Made Whistlers. Journal of Geophysical Research: Space Physics, 0, , .	2.4	5
83	Autoregressive smoothing of GOMOS transmittances. Advances in Space Research, 2005, 36, 899-905.	2.6	4
84	Simulation study for ground-based Ku-band microwave observations of ozone and hydroxyl in the polar middle atmosphere. Atmospheric Measurement Techniques, 2019, 12, 1375-1392.	3.1	4
85	Odd hydrogen response thresholds for indication of solar proton and electron impact in the mesosphere and stratosphere. Annales Geophysicae, 2020, 38, 1299-1312.	1.6	4
86	Impacts of UV Irradiance and Medium-Energy Electron Precipitation on the North Atlantic Oscillation during the 11-Year Solar Cycle. Atmosphere, 2021, 12, 1029.	2.3	3
87	Middle atmospheric ozone, nitrogen dioxide and nitrogen trioxide inÂ2002â€“2011: SD-WACCM simulations compared to GOMOS observations. Atmospheric Chemistry and Physics, 2018, 18, 5001-5019.	4.9	2
88	Sensitivity of Middle Atmospheric Ozone to Solar Proton Events: A Comparison Between a Climate Model and Satellites. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034549.	3.3	2
89	GOMOS serendipitous data products: The mesospheric sodium layer and various limb emissions. Advances in Space Research, 2005, 36, 967-972.	2.6	1
90	Space Weather Effects in the Earthâ€™s Radiation Belts. Space Sciences Series of ISSI, 2017, , 371-430.	0.0	0

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91	Ground-based Ku-band microwave observations of ozone in the polar middle atmosphere. Atmospheric Measurement Techniques, 2022, 15, 2361-2376.	3.1	0