Jean-Pierre St-Maurice

List of Publications by Year
in descending order

119	3,430	159585 30	168389 53
papers	citations	h-index	g-index

120	120	120	1330
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Anomalous heating of the polar E region by unstable plasma waves 1. Observations. Journal of Geophysical Research, 1981, 86, 1447-1452.	3.3	218
2	Ion velocity distributions in the highâ€latitude ionosphere. Reviews of Geophysics, 1979, 17, 99-134.	23.0	190
3	Joule heating at high latitudes. Journal of Geophysical Research, 1983, 88, 4885-4897.	3.3	120
4	Anomalous heating of the polar E region by unstable plasma waves 2. Theory. Journal of Geophysical Research, 1981, 86, 1453-1462.	3.3	118
5	Ion frictional heating at high latitudes and its possible use for an in situ determination of neutral thermospheric winds and temperatures. Journal of Geophysical Research, 1982, 87, 7580-7602.	3.3	110
6	GPS TEC, scintillation and cycle slips observed at high latitudes during solar minimum. Annales Geophysicae, 2010, 28, 1307-1316.	1.6	101
7	Super Dual Auroral Radar Network observations of meteor echoes. Journal of Geophysical Research, 1997, 102, 14603-14614.	3.3	94
8	Radar observations of the onset of current driven instabilities in the topside ionosphere. Geophysical Research Letters, 1988, 15, 160-163.	4.0	91
9	Incoherent scattering of radar waves in the auroral ionosphere. Journal of Geophysical Research, 1981, 86, 4751-4762.	3.3	90
10	Diffusion and heat flow equations for the mid-latitude topside ionosphere. Planetary and Space Science, 1977, 25, 907-920.	1.7	87
11	Dissociative recombination of N2+, O2+, and NO+: Rate coefficients for ground state and vibrationally excited ions. Journal of Geophysical Research, 2004, 109, .	3.3	87
12	Auroral ion velocity distributions for a polarization collision model. Planetary and Space Science, 1977, 25, 243-260.	1.7	79
13	Nonâ€Maxwellian ion velocity distributions observed using EISCAT. Geophysical Research Letters, 1987, 14, 111-114.	4.0	78
14	Auroral ion velocity distributions using a relaxation model. Planetary and Space Science, 1973, 21, 1115-1130.	1.7	67
15	Are observed broadband plasma wave amplitudes large enough to explain the enhanced electron temperatures of the highâ€latitude E region?. Journal of Geophysical Research, 1985, 90, 2843-2850.	3.3	66
16	Monte Carlo calculations of the O⁺ velocity distribution in the auroral ionosphere. Journal of Geophysical Research, 1983, 88, 3237-3241.	3.3	59
17	Behaviour of ion velocity distributions for a simple collision model. Planetary and Space Science, 1974, 22, 1-18.	1.7	55
18	Thermospheric density structures over the polar regions observed with CHAMP. Annales Geophysicae, 2005, 23, 1659-1672.	1.6	55

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19	Ionâ€neutral momentum coupling near discrete highâ€latitude ionospheric features. Journal of Geophysical Research, 1981, 86, 11299-11321.	3.3	54
20	Steve: The Optical Signature of Intense Subauroral Ion Drifts. Geophysical Research Letters, 2019, 46, 6279-6286.	4.0	51
21	Refractive index effects on the scatter volume location and Doppler velocity estimates of ionospheric HF backscatter echoes. Annales Geophysicae, 2009, 27, 4207-4219.	1.6	50
22	Improvement of SuperDARN velocity measurements by estimating the index of refraction in the scattering region using interferometry. Journal of Geophysical Research, 2009, 114, .	3.3	47
23	Relationship between polar cap patches and fieldâ€aligned irregularities as observed with an allâ€sky airglow imager at Resolute Bay and the PolarDARN radar at Rankin Inlet. Journal of Geophysical Research, 2009, 114, .	3.3	44
24	A new nonlinear approach to the theory ofEregion irregularities. Journal of Geophysical Research, 2001, 106, 1751-1759.	3.3	42
25	On a mechanism for the formation of VLF electrostatic emissions in the high latitude F-region. Planetary and Space Science, 1978, 26, 801-816.	1.7	41
26	The impact of the January 15, 2010, annular solar eclipse on the equatorial and low latitude ionospheric densities. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	37
27	Electron heating by plasma waves in the high latitude E-region and related effects: theory. Advances in Space Research, 1990, 10, 239-249.	2.6	35
28	The Vertical Distribution of the Optical Emissions of a Steve and Picket Fence Event. Geophysical Research Letters, 2019, 46, 10719-10725.	4.0	35
29	A theory of coherent radar spectra in the auroral E region. Journal of Geophysical Research, 1983, 88, 4087-4095.	3.3	33
30	Resolute Bay VHF radar: A multipurpose tool for studies of tropospheric motions, middle atmosphere dynamics, meteor physics, and ionospheric physics. Radio Science, 2001, 36, 1839-1857.	1.6	33
31	Local electrodynamics of a solar eclipse at the magnetic equator in the early afternoon hours. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	33
32	Reaction rate of O+with O2, N2, and NO under highly disturbed auroral conditions. Journal of Geophysical Research, 1998, 103, 17519-17521.	3.3	31
33	The role played by thermal feedback in heated Farley-Buneman waves at high latitudes. Annales Geophysicae, 2000, 18, 532-546.	1.6	31
34	Observations of high-velocity SAPS-like flows with the King Salmon SuperDARN radar. Annales Geophysicae, 2006, 24, 1591-1608.	1.6	29
35	First observations from the RISR-C incoherent scatter radar. Radio Science, 2016, 51, 1645-1659.	1.6	29
36	Spaceâ€time variability of polar cap patches: Direct evidence for internal plasma structuring. Journal of Geophysical Research, 2012, 117, .	3.3	28

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37	Electron heating by plasma waves in the high latitude E-region and related effects: Observations. Advances in Space Research, 1990, 10, 225-237.	2.6	27
38	In situ generation of intense parallel electric fields in the lower ionosphere. Journal of Geophysical Research, 1996, 101, 335-356.	3.3	27
39	Optical Spectra and Emission Altitudes of Doubleâ€Layer STEVE: A Case Study. Geophysical Research Letters, 2019, 46, 13630-13639.	4.0	26
40	On the usefulness of <i>E</i> region electron temperatures and lower <i>F</i> region ion temperatures for the extraction of thermospheric parameters: a case study. Annales Geophysicae, 1999, 17, 1182-1198.	1.6	25
41	Fast type-I waves in the equatorial electrojet: Evidence for nonisothermal ion-acoustic speeds in the lowerEregion. Journal of Geophysical Research, 2003, 108, .	3.3	25
42	Scattered power from non-thermal, F-region plasma observed by EISCATâ€"evidence for coherent echoes?. Journal of Atmospheric and Solar-Terrestrial Physics, 1988, 50, 467-485.	0.9	24
43	Nonlinear model of short-scale electrodynamics in the auroral ionosphere. Annales Geophysicae, 2000, 18, 1128-1144.	1.6	24
44	Quasi-periodic backscatters from theEregion at Gadanki: Evidence for Kelvin-Helmholtz billows in the lower thermosphere?. Journal of Geophysical Research, 2005, 110, .	3.3	24
45	Impact of electron thermal effects on Farley-Buneman waves at arbitrary aspect angles. Journal of Geophysical Research, 2004, 109, .	3.3	23
46	HF ground scatter from the polar cap: Ionospheric propagation and ground surface effects. Journal of Geophysical Research, 2010, 115, .	3.3	23
47	Application of ground scatter returns for calibration of HF interferometry data. Earth, Planets and Space, 2015, 67, .	2.5	22
48	Dissociative recombination of the methane family ions: rate coefficients and implications. Advances in Space Research, 2004, 33, 216-220.	2.6	21
49	Reorganization of polar cap patches through shears in the background plasma convection. Journal of Geophysical Research, 2010, 115, .	3.3	21
50	Monitoring the F-region peak electron density using HF backscatter interferometry. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	21
51	New insights from a nonlocal generalization of the Farley-Buneman instability problem at high latitudes. Annales Geophysicae, 2002, 20, 2003-2025.	1.6	21
52	A statistical study of F region ion temperatures at high latitudes based on Atmosphere Explorer C data. Journal of Geophysical Research, 1984, 89, 987-996.	3.3	19
53	The effect of electron-neutral energy exchange on the fluid Farley-Buneman instability threshold. Journal of Geophysical Research, 1997, 102, 24091-24115.	3.3	18
54	Observation of coherent echoes with narrow spectra near 150 km altitude during daytime away from the dip equator. Geophysical Research Letters, 2004, 31, .	4.0	18

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55	Nighttime vertical plasma drifts and the occurrence of sunrise undulation at the dip equator: A study using Jicamarca incoherent backscatter radar measurements. Geophysical Research Letters, 2013, 40, 5570-5575.	4.0	18
56	Anisotropic core ion temperatures associated with strong zonal flows and upflows. Geophysical Research Letters, 2015, 42, 981-986.	4.0	18
57	A multi-scaling analysis of the spin-up problem. Journal of Fluid Mechanics, 1975, 68, 417-445.	3.4	17
58	Coincidence of the ion precipitation boundary with the HF E region backscatter boundary in the dusk-midnight sector of the auroral oval. Geophysical Research Letters, 2002, 29, 97-1-97-4.	4.0	17
59	The effect of <i>E</i>-region wave heating on electrodynamical structures. Annales Geophysicae, 2005, 23, 2081-2094.	1.6	17
60	On the sunrise oscillation of the F region in the equatorial ionosphere. Geophysical Research Letters, 2012, 39, .	4.0	17
61	On the improvement of analytical calculations of collisional auroral ion velocity distributions using recent Monte Carlo results. Journal of Geophysical Research, 1998, 103, 4079-4095.	3.3	16
62	Substorm associated changes in the highâ€latitude ionospheric convection. Geophysical Research Letters, 2003, 30, .	4.0	16
63	Solar eclipseâ€induced Eâ€region plasma irregularities observed by the Gadanki radar. Geophysical Research Letters, 2009, 36, .	4.0	16
64	Threeâ€way validation of the Rankin Inlet PolarDARN radar velocity measurements. Radio Science, 2009, 44, .	1.6	16
65	The effects of mesoscale regions of precipitation on the ionospheric dynamics, electrodynamics and electron density in the presence of strong ambient electric fields. Annales Geophysicae, 2010, 28, 1345-1360.	1.6	15
66	A theoretical framework for the changing spectral properties of meterâ€scale Farleyâ€Buneman waves between 90 and 125Âkm altitudes. Journal of Geophysical Research: Space Physics, 2016, 121, 10,341.	2.4	15
67	Unusual 5 m E region fieldâ€aligned irregularities observed from Northern Germany during the magnetic storm of 17 March 2015. Journal of Geophysical Research: Space Physics, 2016, 121, 10,316.	2.4	15
68	Morphology and possible origins of nearâ€range oblique HF backscatter at high and midlatitudes. Radio Science, 2016, 51, 718-730.	1.6	15
69	Multiâ€Wavelength Imaging Observations of STEVE at Athabasca, Canada. Journal of Geophysical Research: Space Physics, 2021, 126, 2020JA028622.	2.4	14
70	SuperDARN E-region backscatter boundary in the dusk-midnight sector â€“ tracer of equatorward boundary of the auroral oval. Annales Geophysicae, 2002, 20, 1899-1904.	1.6	13
71	Origin of type-2 thermal-ion upflows in the auroral ionosphere. Annales Geophysicae, 2005, 23, 13-24.	1.6	13
72	ICEBEAR: An Allâ€Digital Bistatic Coded Continuousâ€Wave Radar for Studies of the E Region of the Ionosphere. Radio Science, 2019, 54, 349-364.	1.6	13

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73	Global-scale observations of ionospheric convection during geomagnetic storms. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	12
74	Spatiotemporally resolved electrodynamic properties of a Sunâ€aligned arc over Resolute Bay. Journal of Geophysical Research: Space Physics, 2015, 120, 9977-9987.	2.4	12
75	Multiâ€instrument, highâ€resolution imaging of polar cap patch transportation. Radio Science, 2015, 50, 904-915.	1.6	12
76	The Solar Flux Dependence of Ionospheric 150Âkm Radar Echoes and Implications. Geophysical Research Letters, 2017, 44, 11,257-11,264.	4.0	12
77	Thermal effects on Farleyâ€“Buneman waves at nonzero aspect and flow angles. II. Behavior near threshold. Physics of Plasmas, 2008, 15, 022902.	1.9	11
78	Thermal effects on Farleyâ€“Buneman waves at nonzero aspect and flow angles. I. Dispersion relation. Physics of Plasmas, 2008, 15, .	1.9	11
79	Upstream Pc3â€4 waves: Experimental evidence of propagation to the nightside plasmapause/plasmatrough. Geophysical Research Letters, 2010, 37, .	4.0	11
80	A possible origin for large aspect angle "HAIR'' echoes seen by SuperDARN radars in the E region. Annales Geophysicae, 2005, 23, 767-772.	1.6	10
81	Elevated electron temperatures around twin sporadic E layers at low latitude: Observations and the case for a plausible link to currents parallel to the geomagnetic field. Journal of Geophysical Research: Space Physics, 2013, 118, 7316-7328.	2.4	10
82	Calibrating HF Radar Elevation Angle Measurements Using EÂLayer Backscatter Echoes. Radio Science, 2018, 53, 1438-1449.	1.6	10
83	Global Diagnostics of Ionospheric Absorption During Xâ€Ray Solar Flares Based on 8â€to 20â€MHz Noise Measured by Overâ€theâ€Horizon Radars. Space Weather, 2019, 17, 907-924.	3.7	10
84	Globalâ€scale observations of ionospheric convection variation in response to sudden increases in the solar wind dynamic pressure. Journal of Geophysical Research, 2012, 117, .	3.3	9
85	The interconnection between crossâ€polar cap convection and the luminosity of polar cap patches. Journal of Geophysical Research: Space Physics, 2013, 118, 7306-7315.	2.4	9
86	F region dusk ion temperature spikes at the equatorward edge of the highâ€latitude convection pattern. Geophysical Research Letters, 2014, 41, 300-307.	4.0	9
87	Experimental Evidence of Arctic Summer Mesospheric Upwelling and Its Connection to Cold Summer Mesopause. Geophysical Research Letters, 2017, 44, 9151-9158.	4.0	9
88	Steepening Plasma Density Spectra in the Ionosphere: The Crucial Role Played by a Strong Eâ€Region. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029401.	2.4	9
89	Plasma transport in the topside venus ionosphere. Planetary and Space Science, 1977, 25, 921-930.	1.7	8
90	Global and local equatorward expansion of the ion auroral oval before substorm onsets. Journal of Geophysical Research, 2005, 110, .	3.3	7

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91	Non-wave mechanism of transverse ion heating in magnetic flux tubes. Physica Scripta, 2009, 80, 025501.	2.5	7
92	Investigation of sudden electron density depletions observed in the dusk sector by the Poker Flat, Alaska incoherent scatter radar in summer. Journal of Geophysical Research: Space Physics, 2014, 119, 10,608.	2.4	7
93	3D imaging reveals electrod ynamics of polar cap aurora. Astronomy and Geophysics, 2014, 55, 5.26-5.28.	0.2	7
94	Extreme plasma convection and frictional heating of the ionosphere: ISR observations. Journal of Geophysical Research: Space Physics, 2017, 122, 7581-7598.	2.4	7
95	A Timeâ€Dependent Twoâ€Dimensional Model Simulation of Lower Ionospheric Variations Under Intense SAID. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	7
96	Ion distribution functions in cylindrically symmetric electric fields in the auroral ionosphere: The collisionâ€free case in a uniformly charged configuration. Journal of Geophysical Research, 2008, 113, .	3.3	6
97	Seasonal differences in the sunrise undulations at the dip equator at solar minimum at two distinct locations and their relation with postsunset electrodynamics. Journal of Geophysical Research: Space Physics, 2014, 119, 5777-5789.	2.4	6
98	Largeâ€Scale Comparison of Polar Cap Ionospheric Velocities Measured by RISRâ€C, RISRâ€N, and SuperDARN. Radio Science, 2018, 53, 624-639.	1.6	6
99	A Polarâ€Cap Patch Detection Algorithm for the Advanced Modular Incoherent Scatter Radar System. Radio Science, 2018, 53, 1225-1244.	1.6	6
100	Substorm onset location and the equatorward boundary of the proton auroral oval. Geophysical Research Letters, 2002, 29, 12-1-12-4.	4.0	5
101	Composition changes during disturbed conditions: Are mass spectrometers overestimating the concentrations of atomic oxygen?. Geophysical Research Letters, 2007, 34, .	4.0	5
102	Incoherent Scatter Spectra Based On Monte Carlo Simulations of Ion Velocity Distributions Under Strong Ion Frictional Heating. Radio Science, 2018, 53, 269-287.	1.6	5
103	Non-thermal ionospheric plasma studies using the incoherent scatter technique. Journal of Atmospheric and Solar-Terrestrial Physics, 1996, 58, 965-978.	0.9	4
104	Ionospheric convection signatures of the interchange cycle at small interplanetary magnetic field clock angles. Journal of Geophysical Research, 2010, 115, .	3.3	4
105	The Properties of ICEBEAR Eâ€Region Coherent Radar Echoes in the Presence of Near Infrared Auroral Emissions, as Measured by the Swarmâ€E Fast Auroral Imager. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	4
106	East-west and vertical spectral asymmetry associated with equatorial type I waves during strong electrojet conditions: 1. Pohnpei radar observations. Journal of Geophysical Research, 2006, 111, .	3.3	3
107	An assessment of how a combination of shears, field-aligned currents and collisions affect F-region ionospheric instabilities. Journal of Plasma Physics, 2007, 73, 69-88.	2.1	3
108	Velocity shear and current driven instability in a collisional F-region. Annales Geophysicae, 2009, 27, 381-394.	1.6	3

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109	Revisiting the Behavior of the Eâ€Region Electron Temperature During Strong Electric Field Events at High Latitudes. Journal of Geophysical Research: Space Physics, 2021, 126, 2020JA028288.	2.4	3
110	Local ionospheric electrodynamics associated with neutral wind fields at low latitudes: Kelvin-Helmholtz billows. Annales Geophysicae, 2006, 24, 1367-1374.	1.6	3
111	East-west and vertical spectral asymmetry associated with equatorial type I waves during strong electrojet conditions: 2. Theory. Journal of Geophysical Research, 2006, 111, .	3.3	2
112	Frictionally heated electrons in the highâ€latitude D region. Journal of Geophysical Research, 2009, 114, .	3.3	2
113	On the Origin of Farâ€Aspect Angle Irregularity Regions Seen by HF Radars at 100â€km Altitude. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027473.	2.4	2
114	Comment on â€œNonlinear electron heating by resonant shear AlfvÃ©n waves in the ionosphereâ€•by J. Y. Lu et al.. Geophysical Research Letters, 2005, 32, .	4.0	1
115	Ion temperature anisotropy effects on threshold conditions of a shear-modified current driven electrostatic ion-acoustic instability in the topside auroral ionosphere. Annales Geophysicae, 2013, 31, 451-457.	1.6	1
116	Backward mapping solutions of the Boltzmann equation in cylindrically symmetric, uniformly charged auroral ionosphere. Astrophysics and Space Science, 2015, 357, 1.	1.4	1
117	Ion temperature anisotropy effects on the dispersion relation and threshold conditions of a sheared current-driven electrostatic ion-acoustic instability with applications to the collisional high-latitude F-region. Journal of Plasma Physics, 2015, 81, .	2.1	1
118	On the role of photo-chemisty vis-a-vis-electrodynamics in controlling sunrise undulation of the F region peak altitude at the dip-equator. , 2014, , .		0
119	Monte-Carlo simulations of ion velocity distributions and resulting incoherent radar spectra under strong ion frictional heating conditions. , 2017, , .		0