

Martin A Uman

List of Publications by Year in descending order

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169
papers

9,713
citations

31976

53
h-index

56724

83
g-index

170
all docs

170
docs citations

170
times ranked

2165
citing authors

#	ARTICLE	IF	CITATIONS
1	The electromagnetic radiation from a finite antenna. American Journal of Physics, 1975, 43, 33-38.	0.7	447
2	Magnetic field of lightning return stroke. Journal of Geophysical Research, 1969, 74, 6899-6910.	3.3	390
3	The physics of lightning. Physics Reports, 2014, 534, 147-241.	25.6	345
4	Characterization of lightning return stroke electric and magnetic fields from simultaneous two-station measurements. Journal of Geophysical Research, 1979, 84, 6307-6314.	3.3	235
5	New insights into lightning processes gained from triggered-lightning experiments in Florida and Alabama. Journal of Geophysical Research, 1998, 103, 14117-14130.	3.3	171
6	X-ray bursts associated with leader steps in cloud-to-ground lightning. Geophysical Research Letters, 2005, 32, .	4.0	168
7	Energetic Radiation Produced During Rocket-Triggered Lightning. Science, 2003, 299, 694-697.	12.6	157
8	Lightning Induced Voltages on Power Lines: Theory. IEEE Transactions on Power Apparatus and Systems / Technical Operations Committee, 1984, PAS-103, 2502-2518.	0.4	127
9	Comparison of lightning return-stroke models. Journal of Geophysical Research, 1993, 98, 22903-22914.	3.3	123
10	A ground level gamma-ray burst observed in association with rocket-triggered lightning. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	122
11	Observed leader and return-stroke propagation characteristics in the bottom 400 m of a rocket-triggered lightning channel. Journal of Geophysical Research, 1999, 104, 14369-14376.	3.3	117
12	High-speed video observations of a lightning stepped leader. Journal of Geophysical Research, 2011, 116, .	3.3	116
13	Some properties of negative cloud-to-ground lightning flashes versus stroke order. Journal of Geophysical Research, 1990, 95, 5447-5453.	3.3	115
14	Initial stage in lightning initiated from tall objects and in rocket-triggered lightning. Journal of Geophysical Research, 2005, 110, .	3.3	115
15	An evaluation of the performance characteristics of the U.S. National Lightning Detection Network in Florida using rocket-triggered lightning. Journal of Geophysical Research, 2005, 110, .	3.3	113
16	Characterization of the initial stage of negative rocket-triggered lightning. Journal of Geophysical Research, 1999, 104, 4213-4222.	3.3	111
17	Leader properties determined with triggered lightning techniques. Journal of Geophysical Research, 1998, 103, 14109-14115.	3.3	105
18	Variation in light intensity with height and time from subsequent lightning return strokes. Journal of Geophysical Research, 1983, 88, 6555-6562.	3.3	99

#	ARTICLE	IF	CITATIONS
19	Lightning Electromagnetic Field Coupling to Overhead Lines: Theory, Numerical Simulations, and Experimental Validation. IEEE Transactions on Electromagnetic Compatibility, 2009, 51, 532-547.	2.2	99
20	Transient electric and magnetic fields associated with establishing a finite electrostatic dipole. American Journal of Physics, 1983, 51, 118-126.	0.7	98
21	Attachment process in rocket-triggered lightning strokes. Journal of Geophysical Research, 1999, 104, 2143-2150.	3.3	97
22	High-speed video observations of rocket-and-wire initiated lightning. Geophysical Research Letters, 2009, 36, .	4.0	97
23	Measurements of x-ray emission from rocket-triggered lightning. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	95
24	Lightning return stroke current from magnetic and radiation field measurements. Journal of Geophysical Research, 1970, 75, 5143-5147.	3.3	94
25	Peak power and energy dissipation in a single-stroke lightning flash. Journal of Geophysical Research, 1968, 73, 3335-3339.	3.3	93
26	A study of X-ray emission from laboratory sparks in air at atmospheric pressure. Journal of Geophysical Research, 2008, 113, .	3.3	92
27	M-component mode of charge transfer to ground in lightning discharges. Journal of Geophysical Research, 2001, 106, 22817-22831.	3.3	91
28	Time interval between lightning strokes and the initiation of dart leaders. Journal of Geophysical Research, 1968, 73, 497-506.	3.3	89
29	Observations of stepping mechanisms in a rocket-and-wire triggered lightning flash. Journal of Geophysical Research, 2010, 115, .	3.3	89
30	X-ray bursts produced by laboratory sparks in air. Geophysical Research Letters, 2005, 32, .	4.0	87
31	Mechanism of the lightning M component. Journal of Geophysical Research, 1995, 100, 25701.	3.3	76
32	Evaluation of U.S. National Lightning Detection Network performance characteristics using rocket-triggered lightning data acquired in 2004-2009. Journal of Geophysical Research, 2011, 116, .	3.3	75
33	Natural and Artificially Initiated Lightning. Science, 1989, 246, 457-464.	12.6	74
34	Electric fields near triggered lightning channels measured with Pockels sensors. Journal of Geophysical Research, 2002, 107, ACL 2-1.	3.3	74
35	Ground-level observation of a terrestrial gamma ray flash initiated by a triggered lightning. Journal of Geophysical Research D: Atmospheres, 2016, 121, 6511-6533.	3.3	74
36	Estimation of the fluence of high-energy electron bursts produced by thunderclouds and the resulting radiation doses received in aircraft. Journal of Geophysical Research, 2010, 115, .	3.3	73

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37	Current Waveforms for Lightning Simulation. IEEE Transactions on Electromagnetic Compatibility, 2012, 54, 880-888.	2.2	71
38	Lightning amplitude spectra in the interval from 100 kHz to 20 MHz. Geophysical Research Letters, 1981, 8, 931-934.	4.0	66
39	Observation of a gamma-ray flash at ground level in association with a cloud-to-ground lightning return stroke. Journal of Geophysical Research, 2012, 117, .	3.3	66
40	Characterization of return-stroke currents in rocket-triggered lightning. Journal of Geophysical Research, 2009, 114, .	3.3	63
41	Electric field pulses in K and M changes of lightning ground flashes. Journal of Geophysical Research, 1992, 97, 9935-9950.	3.3	62
42	Three-dimensional imaging of upward positive leaders in triggered lightning using VHF broadband digital interferometers. Geophysical Research Letters, 2010, 37, .	4.0	62
43	A CRITICAL REVIEW OF NONCONVENTIONAL APPROACHES TO LIGHTNING PROTECTION. Bulletin of the American Meteorological Society, 2002, 83, 1809-1820.	3.3	61
44	Performance characteristics of the NLDN for return strokes and pulses superimposed on steady currents, based on rocket-triggered lightning data acquired in Florida in 2004-2012. Journal of Geophysical Research D: Atmospheres, 2014, 119, 3825-3856.	3.3	60
45	Currents in Florida lightning return strokes. Journal of Geophysical Research, 1973, 78, 3530-3537.	3.3	59
46	Effects of 200 km propagation on Florida lightning return stroke electric fields. Radio Science, 1976, 11, 985-990.	1.6	59
47	Evaluation of ENTLN Performance Characteristics Based on the Ground Truth Natural and Rocket-Triggered Lightning Data Acquired in Florida. Journal of Geophysical Research D: Atmospheres, 2017, 122, 9858-9866.	3.3	59
48	Co-location of lightning leader x-ray and electric field change sources. Geophysical Research Letters, 2008, 35, .	4.0	58
49	The opacity of lightning. Journal of Geophysical Research, 1965, 70, 5491-5497.	3.3	57
50	Determination of lightning temperature. Journal of Geophysical Research, 1969, 74, 949-957.	3.3	56
51	Initiation processes of return strokes in rocket-triggered lightning. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9880-9888.	3.3	56
52	An Unusual Lightning Flash at Kennedy Space Center. Science, 1978, 201, 9-16.	12.6	54
53	Observations of the initial, upward-propagating, positive leader steps in a rocket-and-wire triggered lightning discharge. Geophysical Research Letters, 2011, 38, .	4.0	53
54	Return stroke transmission line model for stroke speed near and equal that of light. Geophysical Research Letters, 2001, 28, 3593-3596.	4.0	52

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55	Observed one-dimensional return stroke propagation speeds in the bottom 170 m of a rocket-triggered lightning channel. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	49
56	The peak temperature of lightning. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1964, 26, 123-128.	0.9	47
57	Correlated electric and magnetic fields from lightning return strokes. <i>Journal of Geophysical Research</i> , 1975, 80, 373-376.	3.3	46
58	Statistical characteristics of the electric and magnetic fields and their time derivatives 15 m and 30 m from triggered lightning. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	46
59	RF and X-ray source locations during the lightning attachment process. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	46
60	Measured electric field risetimes for first and subsequent lightning return strokes. <i>Journal of Geophysical Research</i> , 1972, 77, 399-406.	3.3	45
61	The RF spectra of first and subsequent lightning return strokes in the 1 to 200 km range. <i>Radio Science</i> , 1980, 15, 1089-1094.	1.6	45
62	Cutoff and reestablishment of current in rocket-triggered lightning. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	45
63	Temperature and Electron Density in Long Air Sparks. <i>Journal of Applied Physics</i> , 1967, 38, 895-896.	2.5	44
64	Lightning properties in Florida thunderstorms from video tape records. <i>Journal of Geophysical Research</i> , 1975, 80, 3402-3406.	3.3	44
65	Origin of lightning electric field signatures showing two return-stroke waveforms separated in time by a millisecond or less. <i>Journal of Geophysical Research</i> , 1994, 99, 8157.	3.3	43
66	Correlated time derivatives of current, electric field intensity, and magnetic flux density for triggered lightning at 15 m. <i>Journal of Geophysical Research</i> , 2002, 107, ACL 1-1.	3.3	43
67	Exact expression and moment approximation for the electric field intensity of the lightning return stroke. <i>Journal of Geophysical Research</i> , 1971, 76, 2101-2105.	3.3	41
68	Insights into the ground attachment process of natural lightning gained from an unusual triggered lightning stroke. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	41
69	Direct Lightning Strikes to Test Power Distribution Lines—Part I: Experiment and Overall Results. <i>IEEE Transactions on Power Delivery</i> , 2007, 22, 2236-2244.	4.3	41
70	Lightning attachment processes of an oceanomalous-triggered lightning discharge. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 1524-1533.	3.3	40
71	Electric field intensity of the lightning return stroke. <i>Journal of Geophysical Research</i> , 1973, 78, 3523-3529.	3.3	39
72	Distribution of Currents in the Lightning Protective System of a Residential Building—Part I: Triggered-Lightning Experiments. <i>IEEE Transactions on Power Delivery</i> , 2008, 23, 2439-2446.	4.3	38

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73	Chaotic-dart leaders in triggered lightning: Electric fields, X-rays, and source locations. Journal of Geophysical Research, 2012, 117, .	3.3	38
74	Dart-stepped-leader step formation in triggered lightning. Geophysical Research Letters, 2014, 41, 2204-2211.	4.0	38
75	Four-Meter Sparks in Air. Journal of Applied Physics, 1968, 39, 5162-5168.	2.5	37
76	Radiation field and current of the lightning stepped leader. Journal of Geophysical Research, 1970, 75, 1058-1066.	3.3	37
77	Electric field statistics for close lightning return strokes near Gainesville, Florida. Journal of Geophysical Research, 1976, 81, 4430-4434.	3.3	37
78	High-speed X-ray images of triggered lightning dart leaders. Journal of Geophysical Research, 2011, 116, .	3.3	37
79	Correlation between the channel-bottom light intensity and channel-base current of a rocket-triggered lightning flash. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,457.	3.3	35
80	Spatial and energy distributions of X-ray emissions from leaders in natural and rocket triggered lightning. Journal of Geophysical Research, 2012, 117, .	3.3	34
81	Correlated lightning mapping array and radar observations of the initial stages of three sequentially triggered Florida lightning discharges. Journal of Geophysical Research D: Atmospheres, 2013, 118, 8460-8481.	3.3	34
82	Negative leader step mechanisms observed in altitude triggered lightning. Journal of Geophysical Research D: Atmospheres, 2014, 119, 8160-8168.	3.3	34
83	The diameter of lightning. Journal of Geophysical Research, 1964, 69, 583-585.	3.3	33
84	Electron density measurement in lightning from stark-broadening of H β . Journal of Geophysical Research, 1964, 69, 5151-5154.	3.3	33
85	Estimation of input energy in rocket-triggered lightning. Geophysical Research Letters, 2006, 33, .	4.0	33
86	The initial stage processes of rocket-and-wire triggered lightning as observed by VHF interferometry. Journal of Geophysical Research, 2012, 117, .	3.3	33
87	Errors in magnetic direction finding due to nonvertical lightning channels. Radio Science, 1980, 15, 35-39.	1.6	32
88	Lightning current and luminosity at and above channel bottom for return strokes and M-components. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,645.	3.3	32
89	Lightning attachment processes of three natural lightning discharges. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,637.	3.3	32
90	The conductivity of lightning. Journal of Atmospheric and Solar-Terrestrial Physics, 1964, 26, 1215-1219.	0.9	31

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91	Shock Wave from a Four-Meter Spark. Journal of Applied Physics, 1970, 41, 3148-3155.	2.5	31
92	Evaluation of the GLD360 performance characteristics using rocket-and-wire triggered lightning data. Geophysical Research Letters, 2014, 41, 3636-3642.	4.0	30
93	Test of the transmission line model and the traveling current source model with triggered lightning return strokes at very close range. Journal of Geophysical Research, 2003, 108, .	3.3	28
94	Determination of the electric field intensity and space charge density versus height prior to triggered lightning. Journal of Geophysical Research, 2011, 116, .	3.3	28
95	The attachment process of rocket-triggered lightning dart-stepped leaders. Journal of Geophysical Research D: Atmospheres, 2016, 121, 853-871.	3.3	28
96	Lightning location and lower-ionospheric height determination from two-station magnetic field measurements. Journal of Geophysical Research, 1979, 84, 1727-1734.	3.3	27
97	Remote measurements of thundercloud electrostatic fields. Journal of Geophysical Research, 2009, 114, .	3.3	27
98	Acoustic output of a long spark. Journal of Geophysical Research, 1968, 73, 815-816.	3.3	26
99	Lightning induced by thermonuclear detonations. Journal of Geophysical Research, 1972, 77, 1591-1596.	3.3	26
100	Radio Frequency Signals in Jupiter's Atmosphere. Science, 1996, 272, 858-860.	12.6	26
101	Lightning Currents Flowing in the Soil and Entering a Test Power Distribution Line Via Its Grounding. IEEE Transactions on Power Delivery, 2009, 24, 1095-1103.	4.3	26
102	Measurements of NOX produced by rocket-triggered lightning. Geophysical Research Letters, 2007, 34, .	4.0	25
103	Direct Lightning Strikes to Test Power Distribution Lines—Part II: Measured and Modeled Current Division Among Multiple Arresters and Grounds. IEEE Transactions on Power Delivery, 2007, 22, 2245-2253.	4.3	25
104	Electric radiation fields of lightning return strokes in three isolated Florida thunderstorms. Journal of Geophysical Research, 1973, 78, 7911-7915.	3.3	23
105	Geometrical and electrical characteristics of the initial stage in Florida triggered lightning. Geophysical Research Letters, 2012, 39, .	4.0	23
106	Electric and magnetic fields and field derivatives from lightning stepped leaders and first return strokes measured at distances from 100 to 1000 m. Journal of Geophysical Research, 2008, 113, .	3.3	22
107	Measured electric and magnetic fields from an unusual cloud-to-ground lightning flash containing two positive strokes followed by four negative strokes. Journal of Geophysical Research, 2009, 114, .	3.3	22
108	Simultaneously measured lightning return stroke channel-base current and luminosity. Geophysical Research Letters, 2014, 41, 7799-7805.	4.0	22

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109	Return stroke peak current versus charge transfer in rocket-triggered lightning. Journal of Geophysical Research, 2010, 115, .	3.3	21
110	A triggered lightning flash containing both negative and positive strokes. Geophysical Research Letters, 2004, 31, .	4.0	20
111	Transient current pulses in rocket-extended wires used to trigger lightning. Journal of Geophysical Research, 2012, 117, .	3.3	20
112	The Earth and Its Atmosphere as a Leaky Spherical Capacitor. American Journal of Physics, 1974, 42, 1033-1035.	0.7	19
113	Experimental Study of Lightning-Induced Currents in a Buried Loop Conductor and a Grounded Vertical Conductor. IEEE Transactions on Electromagnetic Compatibility, 2008, 50, 110-117.	2.2	19
114	Rocket-and-wire triggered lightning in 2012 tropical storm Debby in the absence of natural lightning. Journal of Geophysical Research D: Atmospheres, 2013, 118, 13,158-13,174.	3.3	19
115	Quantitative lightning spectroscopy. IEEE Spectrum, 1966, 3, 102-110.	0.7	18
116	Lightning and the Apollo 17/Saturn V Exhaust Plume. Journal of Spacecraft and Rockets, 1974, 11, 72-75.	1.9	18
117	Leader/return-stroke-like processes in the initial stage of rocket-triggered lightning. Journal of Geophysical Research, 2006, 111, .	3.3	18
118	The structure of X-ray emissions from triggered lightning leaders measured by a pinhole-type X-ray camera. Journal of Geophysical Research D: Atmospheres, 2014, 119, 982-1002.	3.3	18
119	A theory of ball lightning. Journal of Geophysical Research, 1966, 71, 1975-1984.	3.3	17
120	Electric and magnetic fields from a semi-infinite antenna above a conducting plane. Journal of Electrostatics, 2004, 61, 209-221.	1.9	17
121	Close electric field signatures of dart leader/return stroke sequences in rocket-triggered lightning showing residual fields. Journal of Geophysical Research, 2005, 110, .	3.3	17
122	Toward a theory of ball lightning. Journal of Geophysical Research, 1969, 74, 6887-6898.	3.3	16
123	Rocket-triggered lightning propagation paths relative to preceding natural lightning activity and inferred cloud charge. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,427.	3.3	16
124	Coordinated lightning, balloon-borne electric field, and radar observations of triggered lightning flashes in North Florida. Geophysical Research Letters, 2015, 42, 5635-5643.	4.0	16
125	Luminosity progression in dart-stepped leader step formation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 14,612.	3.3	16
126	Luminosity in the initial breakdown stage of cloud-to-ground and intracloud lightning. Journal of Geophysical Research D: Atmospheres, 2016, 121, 1236-1247.	3.3	16

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127	High-Speed Video and Lightning Mapping Array Observations of In-Cloud Lightning Leaders and an α Component to Ground. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 1496-1513.	3.3	16
128	The mass density, pressure, and electron density in three lightning strokes near peak temperature. <i>Journal of Geophysical Research</i> , 1964, 69, 5423-5424.	3.3	15
129	Flash propagation and inferred charge structure relative to radar-observed ice alignment signatures in a small Florida mesoscale convective system. <i>Geophysical Research Letters</i> , 2017, 44, 8027-8036.	4.0	15
130	Initial breakdown and fast leaders in lightning discharges producing long-lasting disturbances of the lower ionosphere. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 5794-5804.	2.4	14
131	Measured close lightning leader-step electric field derivative waveforms. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	13
132	Does the lightning current go to zero between ground strokes? Is there a current cutoff? <i>Geophysical Research Letters</i> , 2014, 41, 3266-3273.	4.0	13
133	Observations of corona in triggered dart-stepped leaders. <i>Geophysical Research Letters</i> , 2015, 42, 1977-1983.	4.0	13
134	Cloud-to-Ground Lightning: Mechanisms of Damage and Methods of Protection. <i>Seminars in Neurology</i> , 1995, 15, 227-232.	1.4	12
135	Reply to the "Comment on "Return stroke transmission line model for stroke speed near and equal that of light" by R. Thottappillil, J. Schoene, and M.A. Uman" by B. Kordi, R. Moini, and V.A. Rakov. <i>Geophysical Research Letters</i> , 2002, 29, 143-1-143-2.	4.0	12
136	First images of thunder: Acoustic imaging of triggered lightning. <i>Geophysical Research Letters</i> , 2015, 42, 6051-6057.	4.0	12
137	Lightning Evolution In Two North Central Florida Summer Multicell Storms and Three Winter/Spring Frontal Storms. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 1155-1178.	3.3	12
138	Discussion of paper by E. L. Hill and J. D. Robb, "Pressure Pulse from a Lightning Stroke". <i>Journal of Geophysical Research</i> , 1968, 73, 6595-6597.	3.3	10
139	Measurement and analysis of ground-level electric fields and wire-base current during the rocket-and-wire lightning triggering process. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 10,041.	3.3	10
140	The angular distribution of energetic electron and X-ray emissions from triggered lightning leaders. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 11,712.	3.3	10
141	Frequency domain analysis of triggered lightning return stroke luminosity velocity. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 2334-2350.	3.3	10
142	The optical continuum of lightning. <i>Journal of Geophysical Research</i> , 1965, 70, 279-282.	3.3	9
143	Comments on letter by W. W. Troutman, "Numerical calculation of the pressure pulse from a lightning stroke". <i>Journal of Geophysical Research</i> , 1970, 75, 4192-4195.	3.3	9
144	Triggered-Lightning Experiments at Camp Blanding, Florida (1993-1995). <i>IEEJ Transactions on Power and Energy</i> , 1997, 117, 446-452.	0.2	9

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145	Comment on "The rf spectra of first and subsequent lightning return strokes in the 1 to 200 km range" by Serhan et al.. Radio Science, 1985, 20, 143-145.	1.6	8
146	Voltages Induced on an Overhead Line by the Lightning Stepped Leader. IEEE Transactions on Electromagnetic Compatibility, 1986, 28, 158-161.	2.2	8
147	Triggered lightning sky waves, return stroke modeling, and ionosphere effective height. Journal of Geophysical Research D: Atmospheres, 2017, 122, 3507-3527.	3.3	8
148	Lightning. Journal of Electrostatics, 1978, 4, 391-392.	1.9	7
149	An "anomalous" triggered lightning flash in Florida. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3402-3414.	3.3	7
150	Triggered Lightning Return Stroke Luminosity up to 1 km in Two Optical Bands. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9724-9740.	3.3	7
151	Calibration of the ENTLN against rocket-triggered lightning data. , 2013, , .		6
152	The energy spectrum of X-rays from rocket-triggered lightning. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,951.	3.3	6
153	Do cosmic ray air showers initiate lightning?: A statistical analysis of cosmic ray air showers and lightning mapping array data. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8173-8186.	3.3	6
154	Electric field derivative waveforms from dart-stepped-leader steps in triggered lightning. Journal of Geophysical Research D: Atmospheres, 2014, 119, 10,844-10,858.	3.3	5
155	Reply to Smyth and Smyth. American Journal of Physics, 1977, 45, 582-582.	0.7	4
156	The Best Lightning Photo I've Ever Seen. Weatherwise, 1991, 44, 8-9.	0.1	3
157	Production of carbon monoxide by charged particle deposition. Journal of Geophysical Research, 1973, 78, 5284-5291.	3.3	2
158	Progress in atmospheric electricity. Reviews of Geophysics, 1975, 13, 760-765.	23.0	2
159	Fine progression features of return stroke luminosity at the bottom of rocket-triggered lightning channels. Journal of Atmospheric Electricity, 2020, 39, 57-69.	0.3	2
160	Ball lightning wild and wonderful. Nature, 1982, 300, 578-579.	27.8	1
161	Lightning. Reviews of Geophysics, 1983, 21, 992-997.	23.0	1
162	Lightning-induced currents in a buried loop conductor and a grounded vertical conductor. , 2007, , .		1

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163	Characteristics of the initial rising portion of near and far lightning return stroke electric field waveforms. , 2010, , .		1
164	Estimation of triggered lightning dart stepped leader currents from close multiple station d <i>E</i> /d <i>t</i> pulse measurements. Journal of Geophysical Research D: Atmospheres, 2015, 120, 1458-1475.	3.3	1
165	Comments on the Photos. Weatherwise, 1993, 45, 19-19.	0.1	0
166	Fine structure of electric field waveforms recorded at near and far distances from the lightning channel. , 2010, , .		0
167	Properties of lightning associated with long recovery early VLF events. , 2014, , .		0
168	An analysis of ELF sferics produced by rocket-triggered lightning. , 2014, , .		0
169	Return stroke current reflections in rocket-triggered lightning. Journal of Geophysical Research D: Atmospheres, 2016, 121, 2973-2993.	3.3	0