Michael J. Mumma

List of Publications by Year
in descending order

196	10,306	25034	42399
papers	citations	57 h-index	92 g-index

200	200	200	4488
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Chemical Composition of Cometsâ€"Emerging Taxonomies and Natal Heritage. Annual Review of Astronomy and Astrophysics, 2011, 49, 471-524.	24.3	688
2	Strong Release of Methane on Mars in Northern Summer 2003. Science, 2009, 323, 1041-1045.	12.6	516
3	Discovery of X-ray and Extreme Ultraviolet Emission from Comet C/Hyakutake 1996 B2. Science, 1996, 274, 205-209.	12.6	405
4	Detection of Abundant Ethane and Methane, Along with Carbon Monoxide and Water, in Comet C/1996 B2 Hyakutake: Evidence for Interstellar Origin. Science, 1996, 272, 1310-1314.	12.6	309
5	Strong water isotopic anomalies in the martian atmosphere: Probing current and ancient reservoirs. Science, 2015, 348, 218-221.	12.6	245
6	Deep Impact: Observations from a Worldwide Earth-Based Campaign. Science, 2005, 310, 265-269.	12.6	182
7	Parent Volatiles in Comet 9P/Tempel 1: Before and After Impact. Science, 2005, 310, 270-274.	12.6	168
8	Organic Composition of C/1999 S4 (LINEAR): A Comet Formed Near Jupiter?. Science, 2001, 292, 1334-1339.	12.6	153
9	Carbon Monoxide Production and Excitation in Comet C/1995 O1 (Hale-Bopp): Isolation of Native and Distributed CO Sources. Icarus, 2001, 153, 361-390.	2.5	151
10	Detection of Water Vapor in Halley's Comet. Science, 1986, 232, 1523-1528.	12.6	145
11	Methane in Oort cloud comets. Icarus, 2003, 165, 391-406.	2.5	135
12	Remote infrared observations of parent volatiles in comets: A window on the early solar system. Advances in Space Research, 2003, 31, 2563-2575.	2.6	134
13	A sensitive search for organics (CH4, CH3OH, H2CO, C2H6, C2H2, C2H4), hydroperoxyl (HO2), nitrogen compounds (N2O, NH3, HCN) and chlorine species (HCl, CH3Cl) on Mars using ground-based high-resolution infrared spectroscopy. Icarus, 2013, 223, 11-27.	2.5	126
14	Detection of Atomic Deuterium in the Upper Atmosphere of Mars. Science, 1998, 280, 1576-1580.	12.6	124
15	A SENSITIVE SEARCH FOR DEUTERATED WATER IN COMET 8P/TUTTLE. Astrophysical Journal, 2009, 690, L5-L9.	4.5	120
16	Excitation of the CO Fourth Positive Band System by Electron Impact on Carbon Monoxide and Carbon Dioxide. Journal of Chemical Physics, 1971, 54, 2627-2634.	3.0	115
17	Dissociative Excitation of Vacuum Ultraviolet Emission Features by Electron Impact on Molecular Gases. I. H2and O2. Journal of Chemical Physics, 1971, 55, 1661-1669.	3.0	111
18	Detection of Soft X-rays and a Sensitive Search for Noble Gases in Comet Hale-Bopp (C/1995 O1). Science, 1997, 277, 1488-1491.	12.6	111

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19	Carbonyl Sulfide in Comets C/1996 B2 (Hyakutake) and C/1995 O1 (Haleâ€“Bopp): Evidence for an Extended Source in Haleâ€“Bopp. Icarus, 1998, 135, 377-388.	2.5	111
20	Water Production and Release in Comet C/1995 O1 Haleâ€“Bopp. Icarus, 2000, 143, 324-337.	2.5	109
21	A Survey of Organic Volatile Species in Comet C/1999 H1 (Lee) Using NIRSPEC at the Keck Observatory. Astrophysical Journal, 2001, 546, 1183-1193.	4.5	104
22	Water Production Rates, Rotational Temperatures, and Spin Temperatures in Comets C/1999 H1 (Lee), C/1999 S4, and C/2001 A2. Astrophysical Journal, 2005, 621, 537-544.	4.5	98
23	Water production and release in Comet 153P/Ikeyaâ€“Zhang (C/2002 C1): accurate rotational temperature retrievals from hot-band lines near 2.9-Î¼m. Icarus, 2004, 168, 186-200.	2.5	97
24	Identification of two sources of carbon monoxide in comet Haleâ€“Bopp. Nature, 1999, 399, 662-665.	27.8	96
25	EPOXI: COMET 103P/HARTLEY 2 OBSERVATIONS FROM A WORLDWIDE CAMPAIGN. Astrophysical Journal Letters, 2011, 734, L1.	8.3	96
26	The Composition of Comets. Space Science Reviews, 2015, 197, 9-46.	8.1	90
27	Spectroscopy of Comet Hyakutake at 80â€“700 A: First Detection of Solar Wind Charge Transfer Emissions. Astrophysical Journal, 2001, 549, 629-634.	4.5	85
28	Infrared Spectroscopy of the Î½3 Band of Hydrogen Cyanide in Comet C/1995 O1 Haleâ€“Bopp. Icarus, 1999, 142, 498-508.	2.5	83
29	Detection of Formaldehyde Emission in Comet C/2002 T7 (LINEAR) at Infrared Wavelengths: Lineâ€byâ€Line Validation of Modeled Fluorescent Intensities. Astrophysical Journal, 2006, 650, 470-483.	4.5	82
30	Absolute wind velocities in the lower thermosphere of Venus using infrared heterodyne spectroscopy. Icarus, 1991, 94, 45-63.	2.5	80
31	The molecular composition of Comet C/2007 W1 (Boattini): Evidence of a peculiar outgassing and a rich chemistry. Icarus, 2011, 216, 227-240.	2.5	79
32	Water in planetary and cometary atmospheres: H2O/HDO transmittance and fluorescence models. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 202-220.	2.3	78
33	Science objectives and performances of NOMAD, a spectrometer suite for the ExoMars TGO mission. Planetary and Space Science, 2015, 119, 233-249.	1.7	77
34	A Comprehensive Study of Infrared OH Prompt Emission in Two Comets. I. Observations and Effectivegâ€Factors. Astrophysical Journal, 2006, 653, 774-787.	4.5	76
35	Infrared molecular emissions from comets. Astrophysical Journal, 1984, 276, 782.	4.5	75
36	Comet outbursts and polymers of HCN. Astrophysical Journal, 1992, 398, 293.	4.5	75

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37	ETHYL CYANIDE ON TITAN: SPECTROSCOPIC DETECTION AND MAPPING USING ALMA. Astrophysical Journal Letters, 2015, 800, L14.	8.3	73
38	FIRST DETECTION OF NEAR-INFRARED LINE EMISSION FROM ORGANICS IN YOUNG CIRCUMSTELLAR DISKS. Astrophysical Journal, 2012, 747, 92.	4.5	72
39	Remote sensing by IR heterodyne spectroscopy. Applied Optics, 1983, 22, 2644.	2.1	70
40	A measurement of water vapour amid a largely quiescent environment on Europa. Nature Astronomy, 2020, 4, 266-272.	10.1	69
41	Detection of CO and Ethane in Comet 21P/Giacobini-Zinner: Evidence for Variable Chemistry in the Outer Solar Nebula. Astrophysical Journal, 2000, 531, L155-L159.	4.5	68
42	Ground-based infrared measurements of the global distribution of ozone in the atmosphere of Mars. Icarus, 1991, 92, 252-262.	2.5	67
43	A Search for Variation in the H 2 O Ortho-Para Ratio and Rotational Temperature in the Inner Coma of Comet C/2004 Q2 (Machholz). Astrophysical Journal, 2007, 661, L97-L100.	4.5	67
44	TEMPORAL AND SPATIAL ASPECTS OF GAS RELEASE DURING THE 2010 APPARITION OF COMET 103P/HARTLEY 2. Astrophysical Journal Letters, 2011, 734, L7.	8.3	67
45	Ethane in planetary and cometary atmospheres: Transmittance and fluorescence models of theÎ½₇band at 3.3Î¼m. Journal of Geophysical Research, 2011, 116, .	3.3	65
46	NON-DETECTION OFL-BAND LINE EMISSION FROM THE EXOPLANET HD189733b. Astrophysical Journal, 2011, 728, 18.	4.5	65
47	Soft X-Rays From Four Comets Observed With [ITAL]EUVE[/ITAL]. Astrophysical Journal, 1997, 491, L125-L128.	4.5	64
48	MAPPING THE RELEASE OF VOLATILES IN THE INNER COMAE OF COMETS C/2012 F6 (LEMMON) AND C/2012 S1 (ISON) USING THE ATACAMA LARGE MILLIMETER/SUBMILLIMETER ARRAY. Astrophysical Journal Letters, 2014, 792, L2.	8.3	64
49	A search for p-mode oscillations of Jupiter - Serendipitous observations of nonacoustic thermal wave structure. Astrophysical Journal, 1989, 343, 456.	4.5	64
50	Mapping of Ozone and Water in the Atmosphere of Mars near the 1997 Aphelion. Icarus, 2002, 158, 14-23.	2.5	62
51	Unusually high CO abundance of the first active interstellar comet. Nature Astronomy, 2020, 4, 861-866.	10.1	62
52	A tentative identification of methanol as the progenitor of the 3.52-Î¼m emission feature in several comets. Icarus, 1991, 93, 122-134.	2.5	61
53	Identification of a new band system of isotopic CO2 near 3.3 Î¼m: Implications for remote sensing of biomarker gases on Mars. Icarus, 2008, 195, 34-44.	2.5	60
54	Reservoirs for Comets: Compositional Differences Based on Infrared Observations. Space Science Reviews, 2008, 138, 127-145.	8.1	60

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55	Discovery of Natural Gain Amplification in the 10-Micrometer Carbon Dioxide Laser Bands on Mars: A Natural Laser. Science, 1981, 212, 45-49.	12.6	58
56	ALMA detection and astrobiological potential of vinyl cyanide on Titan. Science Advances, 2017, 3, e1700022.	10.3	58
57	Post-perihelion observations of water in comet Halley. Nature, 1986, 324, 441-444.	27.8	57
58	On the identification of formaldehyde in Halley's comet. Astrophysical Journal, 1989, 344, 940.	4.5	57
59	The effect of electron collisions on rotational populations of cometary water. Astrophysical Journal, 1992, 386, 720.	4.5	57
60	HIGHLY DEPLETED ETHANE AND MILDLY DEPLETED METHANOL IN COMET 21P/GIACOBINI-ZINNER: APPLICATION OF A NEW EMPIRICAL Î½₂-BAND MODEL FOR CH₃OH NEAR 50 K. Astrophysical Journal, 2013, 763, 1.	4.5	56
61	Sensitivity limits of an infrared heterodyne spectrometer for astrophysical applications. Applied Optics, 1976, 15, 427.	2.1	55
62	Ethane Production and Release in Comet C/1995 O1 Haleâ€“Bopp. Icarus, 2001, 153, 162-179.	2.5	55
63	CHEMICAL COMPOSITION OF COMET C/2007 N3 (LULIN): ANOTHER â€˜â€˜ATYPICALâ€™â€™ COMET. Astrophysical Journal, 2012, 750, 102.	4.5	55
64	The Volatile Composition of the Split Ecliptic comet 73P/Schwassmann-Wachmann 3: A Comparison of Fragments C and B. Astrophysical Journal, 2006, 650, L87-L90.	4.5	54
65	NH3 spectral line measurements on Earth and Jupiter using a 10 Î¼m superheterodyne receiver. Infrared Physics, 1977, 17, 431-439.	0.5	53
66	ALMA MEASUREMENTS OF THE HNC AND HC₃N DISTRIBUTIONS IN TITAN'S ATMOSPHERE. Astrophysical Journal Letters, 2014, 795, L30.	8.3	53
67	A high-resolution infrared spectral survey of Comet C/1999 H1 Lee. Icarus, 2006, 184, 255-276.	2.5	52
68	A QUANTUM BAND MODEL OF THE Î½₃FUNDAMENTAL OF METHANOL (CH₃OH) AND ITS APPLICATION TO FLUORESCENCE SPECTRA OF COMETS. Astrophysical Journal, 2012, 747, 37.	4.5	51
69	THE CHEMICAL COMPOSITION OF CO-RICH COMET C/2009 P1 (GARRADD) ATR_h= 2.4 and 2.0 AU BEFORE PERIHELION. Astrophysical Journal Letters, 2012, 748, L13.	8.3	50
70	Methane on Mars and Habitability: Challenges and Responses. Astrobiology, 2018, 18, 1221-1242.	3.0	50
71	Airborne infrared spectroscopy of Comet Wilson (1986l) and comparisons with Comet Halley. Astrophysical Journal, 1989, 338, 1106.	4.5	50
72	Observations of the 10-Î¼m natural laser emission from the mesospheres of Mars and Venus. Icarus, 1983, 55, 347-355.	2.5	48

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73	Variability of ethane on Jupiter. Icarus, 1987, 72, 394-410.	2.5	48
74	The Peculiar Volatile Composition of Comet 8P/Tuttle: A Contact Binary of Chemically Distinct Cometesimals?. Astrophysical Journal, 2008, 680, L61-L64.	4.5	48
75	Evidence for two modes of water release in Comet 103P/Hartley 2: Distributions of column density, rotational temperature, and orthoâ€“para ratio. Icarus, 2013, 222, 740-751.	2.5	48
76	Infrared heterodyne spectroscopy of astronomical and laboratory sources at 8.5 Âµm. Nature, 1975, 253, 514-516.	27.8	47
77	Precision measurements of NH_3 spectral lines near 11 Î¼m using the infrared heterodyne technique. Optics Letters, 1977, 1, 81.	3.3	47
78	Monte Carlo Simulation of Cometary Atmospheres: Application to Comet P/Halley at the Time of the Giotto Spacecraft Encounter. II. Axisymmetric Model. Astrophysical Journal, 1996, 464, 457.	4.5	45
79	The organic composition of Comet C/2001 A2 (LINEAR). Icarus, 2008, 194, 347-356.	2.5	44
80	Organic Volatiles in Comet 73P-B/Schwassmann-Wachmann 3 Observed during Its Outburst: A Clue to the Formation Region of the Jupiter-Family Comets. Astrophysical Journal, 2007, 668, L75-L78.	4.5	43
81	Modeling of the 10-Î¼m natural laser emission from the mesospheres of Mars and Venus. Icarus, 1983, 55, 356-368.	2.5	42
82	Discovery of OH in Circumstellar Disks around Young Intermediate-Mass Stars. Astrophysical Journal, 2008, 681, L25-L28.	4.5	42
83	Understanding measured water rotational temperatures and column densities in the very innermost coma of Comet 73P/Schwassmannâ€“Wachmann 3 B. Icarus, 2012, 221, 174-185.	2.5	42
84	On the Origin and Evolution of the Material in 67P/Churyumov-Gerasimenko. Space Science Reviews, 2020, 216, 102.	8.1	42
85	EN ROUTE TO DESTRUCTION: THE EVOLUTION IN COMPOSITION OF ICES IN COMET D/2012 S1 (ISON) BETWEEN 1.2 AND 0.34 AU FROM THE SUN AS REVEALED AT INFRARED WAVELENGTHS*. Astrophysical Journal, 2016, 820, 34.	4.5	41
86	Depleted Carbon Monoxide in Fragment C of the Jupiter-Family Comet 73P/Schwassmann-Wachmann 3. Astrophysical Journal, 2007, 661, L101-L104.	4.5	40
87	GROUND-BASED INFRARED DETECTIONS OF CO IN THE CENTAUR-COMET 29P/SCHWASSMANN-WACHMANN 1 AT 6.26 AU FROM THE SUN. Astrophysical Journal, 2013, 766, 100.	4.5	40
88	Measurement of the isotopic signatures of water on Mars; Implications for studying methane. Planetary and Space Science, 2011, 59, 163-168.	1.7	39
89	Pre- and post-perihelion observations of C/2009 P1 (Garradd): Evidence for an oxygen-rich heritage?. Icarus, 2014, 228, 167-180.	2.5	39
90	Strong Variability of Martian Water Ice Clouds During Dust Storms Revealed From ExoMars Trace Gas Orbiter/NOMAD. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006250.	3.6	39

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91	The organic composition of C/2001 A2 (LINEAR)II. Search for heterogeneity within a comet nucleus. Icarus, 2007, 188, 224-232.	2.5	38
92	FLUORESCENCE EXCITATION MODELS OF AMMONIA AND AMIDOGEN RADICAL (NH₂) IN COMETS: APPLICATION TO COMET C/2004 Q2 (MACHHOLZ). Astrophysical Journal, 2011, 727, 91.	4.5	38
93	COMET C/2004 Q2 (MACHHOLZ): PARENT VOLATILES, A SEARCH FOR DEUTERATED METHANE, AND CONSTRAINT ON THE CH₄SPIN TEMPERATURE. Astrophysical Journal, 2009, 699, 1563-1572.	4.5	37
94	Polar warming in the middle atmosphere of Mars. Icarus, 1986, 66, 366-379.	2.5	36
95	The organic composition of Comet C/2000 WM1 (LINEAR) revealed through infrared spectroscopy. Icarus, 2010, 206, 764-777.	2.5	36
96	C/2013 R1 (LOVEJOY) AT IR WAVELENGTHS AND THE VARIABILITY OF CO ABUNDANCES AMONG OORT CLOUD COMETS. Astrophysical Journal, 2014, 791, 122.	4.5	36
97	Infrared studies of hydrocarbons on Jupiter. Infrared Physics, 1989, 29, 199-204.	0.5	35
98	Oxygen and Carbon Isotope Ratios in Martian Carbon Dioxide: Measurements and Implications for Atmospheric Evolution. Icarus, 1996, 124, 553-568.	2.5	35
99	The Unusual Volatile Composition of the Halley-Type Comet 8P/Tuttle: Addressing the Existence of an Inner Oort Cloud. Astrophysical Journal, 2008, 683, L71-L74.	4.5	34
100	Angular distributions, kinetic energy distributions, and excitation functions of fast metastable oxygen fragments following electron impact on CO2. Journal of Chemical Physics, 1975, 62, 3442.	3.0	32
101	Systematic Observations of Methanol and Other Organics in Comet P/Swift-Tuttle: Discovery of New Spectral Structure at 3.42 Î¼m. Icarus, 1995, 116, 1-17.	2.5	32
102	A Possible Source of the X-Rays from Comet Hyakutake. Icarus, 1997, 127, 246-250.	2.5	32
103	Methane on Mars: New insights into the sensitivity of CH4 with the NOMAD/ExoMars spectrometer through its first in-flight calibration. Icarus, 2019, 321, 671-690.	2.5	32
104	Expected performances of the NOMAD/ExoMars instrument. Planetary and Space Science, 2016, 124, 94-104.	1.7	31
105	Infrared spectral measurement of space shuttle glow. Geophysical Research Letters, 1992, 19, 989-992.	4.0	30
106	EUVE Search for X-rays from Comets Encke, Mueller (C/1993 A1), Borrelly, and Postperihelion Haleâ€“Bopp. Icarus, 2000, 146, 152-160.	2.5	30
107	Temporal evolution of parent volatiles and dust in Comet 9P/Tempel 1 resulting from the Deep Impact experiment. Icarus, 2007, 187, 240-252.	2.5	30
108	A multi-instrument study of Comet C/2009 P1 (Garradd) at 2.1AU (pre-perihelion) from the Sun. Icarus, 2012, 220, 291-295.	2.5	30

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109	A search for SO2, H2S and SO above Tharsis and Syrtis volcanic districts on Mars using ground-based high-resolution submillimeter spectroscopy. Icarus, 2015, 253, 130-141.	2.5	30
110	Stratospheric ozone measurement with an infrared Heterodyne spectrometer. Geophysical Research Letters, 1978, 5, 317-320.	4.0	29
111	New features in Saturn's atmosphere revealed by high-resolution thermal infrared images. Nature, 1989, 342, 777-780.	27.8	29
112	IRCS/Subaru observations of water in the inner coma of Comet 73P-B/Schwassmannâ€“Wachmann 3: Spatially resolved rotational temperatures and orthoâ€“para ratios. Icarus, 2008, 196, 241-248.	2.5	29
113	THE UNEXPECTEDLY BRIGHT COMET C/2012 F6 (LEMMON) UNVEILED AT NEAR-INFRARED WAVELENGTHS. Astronomical Journal, 2014, 147, 15.	4.7	29
114	A Comprehensive Study of Infrared OH Prompt Emission in Two Comets. II. Implications for Unimolecular Dissociation of H2O. Astrophysical Journal, 2006, 653, 788-791.	4.5	27
115	Silicon immersion grating spectrograph design for the NASA Infrared Telescope Facility. Proceedings of SPIE, 2008, , .	0.8	27
116	Tunable diode-laser heterodyne spectrometer for remote observations near 8 Î¼m. Applied Optics, 1982, 21, 253.	2.1	26
117	The heliocentric evolution of cometary infrared spectra: Results from an organic grain model. Icarus, 1989, 79, 362-381.	2.5	26
118	High-resolution infrared spectroscopic measurements of Comet 2P/Encke: Unusual organic composition and low rotational temperatures. Icarus, 2013, 223, 298-307.	2.5	26
119	Optical and radiometric models of the NOMAD instrument part I: the UVIS channel. Optics Express, 2015, 23, 30028.	3.4	26
120	Measurements of stratospheric ethane in the Jovian South Polar Region from infrared heterodyne spectroscopy of the nu9 band near 12 microns. Astrophysical Journal, 1983, 265, 564.	4.5	26
121	Infrared OH Prompt Emission as a Proxy of Water Production in Comets: Quantitative Analysis of the Multiplet Near 3046 cmâ^'1in Comets C/1999 H1 (Lee) and C/2001 A2 (LINEAR). Astrophysical Journal, 2004, 615, 1048-1053.	4.5	25
122	Discovery of multiple bands of isotopic CO2 in the prime spectral regions used when searching for CH4 and HDO on Mars. Journal of Quantitative Spectroscopy and Radiative Transfer, 2008, 109, 883-894.	2.3	25
123	THE VOLATILE COMPOSITION OF COMET C/2003 K4 (LINEAR) AT NEAR-IR WAVELENGTHSâ€”COMPARISONS WITH RESULTS FROM THE NANÃ‡AY RADIO TELESCOPE AND FROM THEODIN,SPITZER, ANDSOHOSPACE OBSERVATORIES. Astrophysical Journal, 2015, 808, 1.	4.5	25
124	Monte Carlo Simulation of Cometary Atmospheres: Application to Comet P/Halley at the Time of the Giotto Spacecraft Encounter. I. Isotropic Model. Astrophysical Journal, 1996, 464, 442.	4.5	25
125	Angular distributions and polarization fractions of helium resonance radiation (nP1â^'1S1) in the extreme ultraviolet. Physical Review A, 1974, 9, 203-208.	2.5	24
126	Reduced absorption of the nonthermal CO(AÂ¹Î-XÂ¹Î£⁺) fourth-positive group by thermal CO and implications for the Mars upper atmosphere. Journal of Geophysical Research, 1975, 80, 168-172.	3.3	24

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127	Is There Any Chlorine Monoxide in the Stratosphere?. Science, 1983, 221, 268-271.	12.6	24
128	Modeling of nitrogen compounds in cometary atmospheres: Fluorescence models of ammonia (NH3), hydrogen cyanide (HCN), hydrogen isocyanide (HNC) and cyanoacetylene (HC3N). Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 129, 158-168.	2.3	24
129	The Volatile Composition of Comet C/2017 E4 (Lovejoy) before its Disruption, as Revealed by High-resolution Infrared Spectroscopy with iSHELL at the NASA/IRTF. Astronomical Journal, 2018, 156, 68.	4.7	24
130	Linear Momentum Transfer Effects in Molecular Dissociation Produced by Electron Impact. Journal of Chemical Physics, 1972, 57, 1891-1895.	3.0	23
131	Water in the near-infrared spectrum of comet 8P/Tuttle. Monthly Notices of the Royal Astronomical Society, 2009, 398, 1593-1600.	4.4	23
132	Nonthermal rotational distribution of CO(AÂ¹Î) fragments produced by dissociative excitation of CO₂by electron impact. Journal of Geophysical Research, 1975, 80, 161-167.	3.3	21
133	A new model for theÎ½₁vibrational band of HCN in cometary comae, with application to three comets. Astronomy and Astrophysics, 2013, 551, A51.	5.1	21
134	Mapping Vinyl Cyanide and Other Nitriles in Titanâ€™s Atmosphere Using ALMA. Astronomical Journal, 2017, 154, 206.	4.7	21
135	Hyakutake's interstellar ices. Nature, 1996, 383, 581-582.	27.8	20
136	Infrared fluorescence efficiencies for the nu1 and nu5 bands of formaldehyde in the solar radiation field. Astrophysical Journal, 1989, 341, 1045.	4.5	20
137	Outbursts of H2O in Comet P/Halley. Icarus, 1990, 86, 129-151.	2.5	19
138	The formation heritage of Jupiter Family Comet 10P/Tempel 2 as revealed by infrared spectroscopy. Icarus, 2012, 218, 644-653.	2.5	19
139	SWIFT-UVOT GRISM SPECTROSCOPY OF COMETS: A FIRST APPLICATION TO C/2007 N3 (LULIN). Astronomical Journal, 2011, 141, 12.	4.7	18
140	Ground-based Detection of Deuterated Water in Comet C/2014 Q2 (Lovejoy) at IR Wavelengths. Astrophysical Journal Letters, 2017, 836, L25.	8.3	18
141	ALMA Mapping of Rapid Gas and Dust Variations in Comet C/2012 S1 (ISON):New Insights into the Origin of Cometary HNC. Astrophysical Journal, 2017, 838, 147.	4.5	18
142	Quantifying the Evolution of Molecular Production Rates of Comet 21P/Giacobiniâ€“Zinner with iSHELL/NASA-IRTF. Astronomical Journal, 2019, 158, 254.	4.7	18
143	Infrared Heterodyne Spectroscopy. Optical Engineering, 1982, 21, 313.	1.0	17
144	The infrared (3.2-3.6 Âm) spectrum of comet P/Swift-Tuttle: detection of methanol and other organics. Monthly Notices of the Royal Astronomical Society, 1993, 265, 1022-1026.	4.4	17

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145	A multi-wavelength study of parent volatile abundances in Comet C/2006 M4 (SWAN). Icarus, 2009, 203, 589-598.	2.5	17
146	A NEWLY DEVELOPED FLUORESCENCE MODEL FOR C₂H₆Î½₅AND APPLICATION TO COMETARY SPECTRA ACQUIRED WITH NIRSPEC AT KECK II. Astrophysical Journal, 2011, 729, 135.	4.5	17
147	THE INNER COMA OF COMET C/2012 S1 (ISON) AT 0.53 AU AND 0.35 AU FROM THE SUN. Astrophysical Journal Letters, 2014, 796, L6.	8.3	17
148	Blocked impurity band detectors applied to tunable diode laser spectroscopy in the 8- to 28-Î¼m range. Applied Optics, 1993, 32, 2117.	2.1	16
149	D/H ratio during the northern polar summer and what the Phoenix mission might measure. Journal of Geophysical Research, 2008, 113, .	3.3	15
150	A sensitive upper limit to OCS in Comet Austin (1989c1) from a search for Î½3 emission at 4.85 Î¼m. Icarus, 1992, 97, 155-158.	2.5	14
151	ALMA Autocorrelation Spectroscopy of Comets: The HCN/H¹³CN Ratio in C/2012 S1 (ISON). Astrophysical Journal Letters, 2019, 870, L26.	8.3	14
152	Sensitivity of an astronomical infrared heterodyne spectrometer. Infrared Physics, 1976, 16, 61-64.	0.5	13
153	Thermal bifurcation in the upper photosphere inferred from heterodyne spectroscopy of OH rotational lines. Solar Physics, 1984, 94, 57-74.	2.5	13
154	Infrared Observations of Methanol in Comet P/Swift-Tuttle. Icarus, 1993, 105, 548-556.	2.5	13
155	Comet Shoemakerâ€“Levy 9 Dust. Icarus, 1996, 121, 291-304.	2.5	13
156	Beyond 3 au from the Sun: The Hypervolatiles CH₄, C₂H₆, and CO in the Distant Comet C/2006 W3 (Christensen)^{â^—}. Astronomical Journal, 2017, 153, 241.	4.7	13
157	Thermal Physics of the Inner Coma: ALMA Studies of the Methanol Distribution and Excitation in Comet C/2012 K1 (PanSTARRS). Astrophysical Journal, 2017, 837, 177.	4.5	13
158	Heterodyne spectroscopy of astronomical and laboratory sources at 8.5 Î¼m using diode laser local oscillators. Space Science Reviews, 1975, 17, 661-667.	8.1	12
159	An infrared search for formaldehyde in several comets. Icarus, 1992, 95, 329-332.	2.5	11
160	A possible detection of infrared emission from carbon monoxide in Comet Austin (1989c 1). Icarus, 1992, 96, 151-160.	2.5	11
161	A deep search for the release of volcanic gases on Mars using ground-based high-resolution infrared and submillimeter spectroscopy: Sensitive upper limits for OCS and SO 2. Icarus, 2017, 296, 1-14.	2.5	11
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