Robert Claude Woods

List of Publications by Year
in descending order

89 papers	2,588 citations	186209 28 h-index	223716 46 g-index
90 all docs	90 docs citations	90 times ranked	1156 citing authors

#	Article	IF	Citations
1	The eight lowest-energy vibrational states of benzonitrile: analysis of Coriolis and Darling-Dennison couplings by millimeter-wave and far-infrared spectroscopy. Journal of Molecular Spectroscopy, 2022, 383, 111568.	0.4	11
2	Rotational spectrum of anti- and gauche-4-cyano-1-butyne (C5H5N) â€“ An open-chain isomer of pyridine. Journal of Molecular Spectroscopy, 2022, 385, 111604.	0.4	3
3	Synthesis, Purification, and Rotational Spectroscopy of 1-Cyanocyclobutene (C₅H₅N). Journal of Physical Chemistry A, 2022, 126, 1980-1993.	1.1	8
4	Semi-experimental equilibrium (r eSE) and theoretical structures of hydrazoic acid (HN3). Journal of Chemical Physics, 2022, 157, .	1.2	3
5	Millimeter-wave and infrared spectroscopy of thiazole (c-C3H3NS) in its ground state and lowest-energy vibrationally excited states (Î½18, Î½17, and Î½13). Journal of Molecular Spectroscopy, 2021, 379, 111493.	0.4	2
6	Precise equilibrium structure determination of thiophene (c-C4H4S) by rotational spectroscopyâ€”Structure of a five-membered heterocycle containing a third-row atom. Journal of Chemical Physics, 2021, 154, 244310.	1.2	20
7	Rotational Spectra of Three Cyanobutadiene Isomers (C₅H₅N) of Relevance to Astrochemistry and Other Harsh Reaction Environments. Journal of the American Chemical Society, 2021, 143, 9551-9564.	6.6	10
8	Synthesis, Purification, and Rotational Spectroscopy of (Cyanomethylene)Cyclopropaneâ€”An Isomer of Pyridine. Journal of Physical Chemistry A, 2021, 125, 5601-5614.	1.1	9
9	The 130â€“360â€‰GHz rotational spectrum of syn -2-cyano-1,3-butadiene (C ₅ H) Tj ETQq1 1 0.784314 rgBT /Ove	0.8	5
10	Precise equilibrium structure of thiazole (c-C3H3NS) from twenty-four isotopologues. Journal of Chemical Physics, 2021, 155, 054302.	1.2	14
11	Semi-Experimental Equilibrium (r_e^{SE}) and Theoretical Structures of Pyridazine (o-C₄H₄N₂). Journal of Physical Chemistry A, 2021, 125, 7976-7987.	1.1	10
12	An analysis of the rotational ground state and lowest-energy vibrationally excited dyad of 3-cyanopyridine: Low symmetry reveals rich complexity of perturbations, couplings, and interstate transitions. Journal of Molecular Spectroscopy, 2020, 373, 111373.	0.4	14
13	Millimeter-wave spectrum of 4-cyanopyridine in its ground state and lowest-energy vibrationally excited states, Î½20 and Î½30. Journal of Molecular Spectroscopy, 2020, 369, 111274.	0.4	15
14	Molecular structure determination: Equilibrium structure of pyrimidine (m-C4H4N2) from rotational spectroscopy (r eSE) and high-level ab initio calculation (r) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2 2020, 152, 104303.	1.2	41
15	Synthesis and Characterization of Cyanobutadiene Isomersâ€”Molecules of Astrochemical Significance. Journal of Organic Chemistry, 2020, 85, 5787-5798.	1.7	10
16	The 130â€“370 GHz rotational spectrum of phenyl isocyanide (C6H5NC). Journal of Chemical Physics, 2019, 151, 024301.	1.2	26
17	Millimeter-wave spectroscopy of the chlorine isotopologues of chloropyrazine and twenty-two of their vibrationally excited states. Journal of Molecular Spectroscopy, 2019, 364, 111179.	0.4	7
18	Millimeter-wave spectroscopy of the chlorine isotopologues of 2-chloropyridine and twenty-three of their vibrationally excited states. Journal of Molecular Spectroscopy, 2019, 365, 111206.	0.4	5

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19	The 103â€“360â€¯GHz rotational spectrum of benzonitrile, the first interstellar benzene derivative detected by radioastronomy. Journal of Molecular Spectroscopy, 2018, 351, 39-48.	0.4	22
20	Millimeter-wave spectroscopy of syn formyl azide (HC(O)N3) in seven vibrational states. Journal of Molecular Spectroscopy, 2017, 331, 71-81.	0.4	4
21	Millimeter-Wave Spectroscopy, X-ray Crystal Structure, and Quantum Chemical Studies of Diketene: Resolving Ambiguities Concerning the Structure of the Ketene Dimer. Journal of Physical Chemistry A, 2016, 120, 7753-7763.	1.1	6
22	Precise equilibrium structure determination of hydrazoic acid (HN3) by millimeter-wave spectroscopy. Journal of Chemical Physics, 2015, 143, 104310.	1.2	31
23	Millimeter-wave spectroscopy of carbonyl diazide, OC(N3)2. Journal of Molecular Spectroscopy, 2014, 295, 15-20.	0.4	8
24	Rotational spectroscopy of pyridazine and its isotopologs from 235â€“360â€‰GHz: Equilibrium structure and vibrational satellites. Journal of Chemical Physics, 2013, 139, 224304.	1.2	45
25	Carbonyl Diazide, OC(N3)2: Synthesis, Purification, and IR Spectrum. Inorganic Chemistry, 2012, 51, 9846-9851.	1.9	17
26	Attempted Isolation and Characterization of Diazirinone (N2CO). Journal of Organic Chemistry, 2010, 75, 1815-1821.	1.7	24
27	The laboratory microwave spectrum of the cyanide radical in its Xâ€‰2Î£+ ground state. Journal of Chemical Physics, 1999, 67, 3956.	1.2	74
28	Atomic absorption spectroscopic measurements of silicon atom concentrations in electron cyclotron resonance silicon oxide deposition plasmas. Journal of Applied Physics, 1999, 85, 87-93.	1.1	8
29	Coupled cluster anharmonic force fields, spectroscopic constants, and vibrational energies of AlF3 and SiF3+. Journal of Chemical Physics, 1997, 107, 1717-1724.	1.2	28
30	Spectroscopic constants and potential energy functions of OCCl+, ONP, ONS+, ArCN+, OCS, and NCCl using the coupled cluster method. Journal of Chemical Physics, 1997, 107, 5094-5102.	1.2	25
31	Coupled cluster prediction of vibrational band intensities for SiF2 and PF2+. Journal of Chemical Physics, 1997, 106, 8283-8284.	1.2	2
32	Coupled cluster spectroscopic properties and isomerization pathway for the cyanate/fulminate isomer pair, NCOâ¯/CNOâ¯. Journal of Chemical Physics, 1997, 106, 5123-5132.	1.2	26
33	Anharmonic force fields and spectroscopic properties of BF3 and CF3+ using the coupled cluster method. Journal of Chemical Physics, 1997, 106, 6424-6429.	1.2	29
34	Coupled cluster calculations of the potential energy surfaces and spectroscopic constants of SiF2, PF+2, SO2, POâ¯2, and ClO+2. Journal of Chemical Physics, 1996, 104, 5547-5554.	1.2	36
35	A coupled cluster study of the spectroscopic properties and electric dipole moment functions of nitrous sulfide. Journal of Chemical Physics, 1996, 104, 7073-7080.	1.2	6
36	SiO2 to Si selectivity mechanisms in high density fluorocarbon plasma etching. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 710.	1.6	29

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37	Silicon oxide deposition in an electron cyclotron resonance plasma with microwave spectroscopic monitoring of SiO. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1995, 13, 2483-2489.	0.9	13
38	A coupled cluster study of the structures, spectroscopic properties, and isomerization path of NCSâ˜ and CNSâ˜. Journal of Chemical Physics, 1995, 103, 9304-9311.	1.2	15
39	Magnetically confined inductively coupled plasma etching reactor. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1995, 13, 2086-2092.	0.9	12
40	A study of the accuracy of various Langmuir probe theories. Journal of Applied Physics, 1994, 76, 4488-4498.	1.1	106
41	Theory of electron retardation by Langmuir probes in anisotropic plasmas. Physical Review E, 1994, 50, 2222-2238.	0.8	24
42	A workstation based Langmuir probe system for lowâ€pressure dc plasmas. Review of Scientific Instruments, 1993, 64, 2440-2448.	0.6	44
43	Langmuir probe measurements of electron temperature and density scaling in multidipole radio frequency plasmas. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 1199-1205.	0.9	20
44	Effect of collisions on ion dynamics in electronâ€cyclotronâ€resonance plasmas. Journal of Applied Physics, 1992, 72, 1720-1728.	1.1	25
45	Submillimeter wave spectroscopy of XeH+and XeD+. Journal of Chemical Physics, 1991, 95, 2352-2360.	1.2	47
46	Complete active space selfâ€consistent field potential energy surfaces, dipole moment functions, and spectroscopic properties of O3, CF2, NOâ˜2, and NF+2. Journal of Chemical Physics, 1991, 94, 414-430.	1.2	57
47	Spectroscopic constants and dipole moment functions of the 22 electron dications SiNe++, PF++, SO++, NCl++, and CAr++. Journal of Chemical Physics, 1991, 95, 3528-3535.	1.2	18
48	The microwave spectrum of PO+: Comparison to SiF+. Journal of Chemical Physics, 1991, 94, 3504-3510.	1.2	17
49	Spectroscopic properties of OCS and OCCl+ by Mo/llerâ€“Plesset perturbation theory and configuration interaction. Journal of Chemical Physics, 1991, 94, 431-441.	1.2	18
50	Configuration interaction spectroscopic properties of Xâ€‰2Î£+ HNC+ and Xâ€‰2Î HCN+. Journal of Chemical Physics, 1990, 93, 4946-4953.	1.2	19
51	The potential energy and dipole moment surfaces of NF2 and Oâ˜3 by complete active space selfâ€consistent field. Journal of Chemical Physics, 1990, 93, 5020-5028.	1.2	20
52	An ab initio investigation of the spectroscopic properties of ClF, ArF+, SFâ˜, and ClOâ˜ in their ground electronic states. Journal of Chemical Physics, 1990, 92, 7412-7417.	1.2	28
53	Configuration interaction potential energy and dipole moment functions for thirteen 22 electron diatomics. Journal of Chemical Physics, 1990, 92, 6061-6068.	1.2	40
54	Laserâ€induced fluorescence measurements of transverse ion temperature in an electron cyclotron resonance plasma. Applied Physics Letters, 1990, 57, 661-663.	1.5	79

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55	Spectroscopic properties of theXâ€‰1Î£+andaâ€‰3Î electronic states of CF+, SiF+, and CCl+by multireference configuration interaction. Journal of Chemical Physics, 1990, 93, 1889-1894.	1.2	31
56	Theoretical dipole moment functions involving the aâ€‰3Î and aâ€™â€‰3Î£+ states of carbon monoxide. Journal of Chemical Physics, 1990, 93, 5029-5036.	1.2	9
57	Anabinitiostudy of the 24 electron radicals PF, SO, NCl, SF+, ClO+, SiFâ^', POâ^', NSâ^', and CClâ^'in theirXâ€‰3â^'â^'electronic states. Journal of Chemical Physics, 1990, 93, 1876-1888.	1.2	51
58	Interstellar absorption lines toward NGC 2264 and AFGL 2591 - Abundances of H2, H3(+), and CO. Astrophysical Journal, 1990, 358, 459.	1.6	49
59	Ground state spectroscopic and thermodynamic properties of AlOâ^', SiNâ^', CPâ^', BSâ^', BOâ^', and CNâ^' from Mo/llerâ€“Plesset perturbation theory. Journal of Chemical Physics, 1989, 90, 7239-7250.	1.2	42
60	A reanalysis of the molecular beam electric resonance Stark effect data for the aâ€‰3Î state of carbon monoxide. Journal of Chemical Physics, 1988, 89, 2781-2788.	1.2	11
61	An investigation of the HBCl+â€“BClH+ system by Mo/llerâ€“Plesset perturbation theory. Journal of Chemical Physics, 1988, 88, 1074-1079.	1.2	23
62	The microwave spectrum of SiF+. Journal of Chemical Physics, 1988, 89, 5454-5459.	1.2	37
63	Predictions of the rotational and vibrational spectra of SiF+, PO+, and NS+ by Mo/llerâ€“Plesset perturbation theory. Journal of Chemical Physics, 1988, 89, 4929-4944.	1.2	37
64	The microwave spectrum of CO in theaâ€‰3Î state. II. The submillimeter wave transitions in the normal isotope. Journal of Chemical Physics, 1988, 88, 7273-7286.	1.2	12
65	The microwave spectrum of CO in the aâ€‰3Î state. I. The J=0â€“1 transitions in CO, 13CO, and C18O. Journal of Chemical Physics, 1987, 87, 6423-6433.	1.2	20
66	An ab initio investigation of the spectroscopic properties of BCl, CS, CCl+, BF, CO, CF+, N2, CNâ^', and NO+. Journal of Chemical Physics, 1987, 87, 4409-4418.	1.2	72
67	Microwave Spectroscopy of Molecular Ions in the Laboratory and in Interstellar Space. Symposium - International Astronomical Union, 1987, 120, 77-85.	0.1	0
68	The lowest rotational transition of several isotopic forms of KrD+. Journal of Chemical Physics, 1984, 81, 5413-5416.	1.2	42
69	Laboratory detection of the 110â†111 submillimeter wave transition of the H2D+ ion. Journal of Chemical Physics, 1984, 81, 2514-2514.	1.2	56
70	Microwave Studies of Molecular Ions. , 1983, , 11-16.		3
71	A Proposed Mechanism for Forming Some Larger Molecules in Dense Interstellar Clouds. , 1983, , 511-515.		1
72	The microwave spectrum of isotopically substituted CO+ ion. Journal of Chemical Physics, 1982, 76, 3385-3388.	1.2	31

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73	Experimental Detection of HOC+by Microwave Spectroscopy. Physical Review Letters, 1982, 48, 1344-1348.	2.9	89
74	Experimental Detection of HOC+by Microwave Spectroscopy.. Physical Review Letters, 1982, 48, 1768-1768.	2.9	17
75	Microwave spectroscopy of molecular ions and other transient species in electric discharges. Faraday Discussions of the Chemical Society, 1981, 71, 57.	2.2	5
76	A microwave substitution structure for protonated nitrogen N2H+. Journal of Chemical Physics, 1981, 75, 4261-4263.	1.2	27
77	The molecular structure of HCO+by the microwave substitution method. Journal of Chemical Physics, 1981, 75, 4256-4260.	1.2	58
78	Pressure broadening of the HCO+ J=0â€“1 transition by hydrogen. Journal of Chemical Physics, 1980, 72, 1332-1336.	1.2	26
79	Theoretical molecular structures and electric dipole moments of CCCNH, HCCNC, HCCCNH+, NCNC, and NCCNH+. Journal of Chemical Physics, 1980, 73, 4521-4527.	1.2	60
80	Laboratory Rest Frequencies for N2D(+). Astrophysical Journal, 1977, 216, L85.	1.6	22
81	Comment on the quadrupole coupling constants in the Aâ€‰2Î£+ states of OD and NO. Journal of Chemical Physics, 1976, 64, 5319-5320.	1.2	14
82	Laboratory Microwave Spectrum and Rest Frequencies of the N2H(+) Ion. Astrophysical Journal, 1976, 205, L101.	1.6	91
83	Laboratory Microwave Spectrum of HCO+. Physical Review Letters, 1975, 35, 1269-1272.	2.9	228
84	Microwave Absorption Spectrum of the CO+Ion. Physical Review Letters, 1975, 34, 61-63.	2.9	102
85	A computer controlled microwave spectrometer system. Review of Scientific Instruments, 1974, 45, 1122-1126.	0.6	13
86	Microwave spectrum of tertâ€butyl mercaptan. Journal of Chemical Physics, 1974, 61, 4119-4128.	1.2	19
87	On the dipole moment of CO+. Journal of Chemical Physics, 1973, 58, 5837-5838.	1.2	14
88	Field Spinning Zeeman Modulation in Microwave Spectroscopy with Cosine Distribution Magnets. Review of Scientific Instruments, 1973, 44, 274-281.	0.6	6
89	A Microwave Spectrometer with an Internal Glow Discharge. Review of Scientific Instruments, 1973, 44, 282-288.	0.6	27