

Ruvín Ferber

List of Publications by Year in descending order

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114
papers

1,971
citations

236925

25
h-index

345221

36
g-index

116
all docs

116
docs citations

116
times ranked

786
citing authors

#	ARTICLE	IF	CITATIONS
1	<p> $\langle A X \psi \rangle$ </p> <p> Potentials for modeling cold collisions between Na (3S) and Rb (5S) atoms. Physical Review A, 2005, 72, . </p>	2.5	102
2	<p> The coupling of the $X^1\Sigma^+$ and $a^3\Sigma^+$ states of the atom pair Na + Cs and modelling cold collisions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, S929-S943. </p>	1.5	58
3	<p> The $c^4\Sigma^+$, $b^4\Sigma^+$, and $a^4\Sigma^+$ states of NaK revisited. Journal of Chemical Physics, 2000, 112, 5740-5750. </p>	2.0	52
4	<p> Solution of the fully-mixed-state problem: Direct deperturbation analysis of the </p> <p> $A \psi \rangle$ </p> <p> Spectroscopic data, spin-orbit functions, and revised analysis of strong perturbative interactions for the </p> <p> $A \psi \rangle$ </p>	2.5	47
5	<p> High resolution spectroscopy and channel-coupling treatment of the $A^1\Sigma^+ - a^1\Sigma^+$ complex of NaRb. Journal of Chemical Physics, 2002, 117, 7980-7988. </p>	3.0	45
6	<p> Deperturbation treatment of the $A^1\Sigma^+ - 1^1\Sigma^+$ complex of NaRb and prospects for ultracold molecule formation in $X^1\Sigma^+ (v=0; j=0)$. Physical Review A, 2007, 75, . </p>	2.5	45
7	<p> Potential of the ground state of NaRb. Physical Review A, 2004, 69, . </p>	2.5	44
8	<p> Laser synthesis of ultracold alkali metal dimers: optimization and control. Russian Chemical Reviews, 2015, 84, 1001-1020. </p>	6.5	42
9	<p> Global analysis of data on the spin-orbit-coupled </p> <p> $A \psi \rangle$ </p>	2.5	41
10	<p> Singlet and triplet potentials of the ground-state atom pair in Rb + Cs </p> <p> $X \psi \rangle$ </p> <p> and </p> <p> $X \psi \rangle$ </p>	2.5	40
11	<p> Singlet and triplet potentials of the ground-state atom pair in Rb + Cs </p> <p> $X \psi \rangle$ </p> <p> studied by </p> <p> Fourier-transform spectroscopy. Physical Review A, 2011, 83, . </p>	2.5	40
12	<p> The ground electronic state of KCs studied by Fourier transform spectroscopy. Journal of Chemical Physics, 2008, 128, 244316. </p>	3.0	38
13	<p> Spectroscopic studies of NaCs for the ground state asymptote of Na + Cs pairs. European Physical Journal D, 2004, 31, 205-211. </p>	1.3	36
14	<p> Fourier-transform spectroscopy and coupled-channels deperturbation treatment of the </p> <p> $A \psi \rangle$ </p> <p> of KCs. Physical Review A, 2010, 81, . </p>	2.5	33
15	<p> spin-orbit-coupled </p> <p> $A \psi \rangle$ </p>	2.5	33
16	<p> Longitudinal spin-relaxation in nitrogen-vacancy centers in electron irradiated diamond. Applied Physics Letters, 2015, 107, . </p>	3.3	32

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19	Energy and radiative properties of the low-lying NaRb states. Physical Review A, 2001, 63, .	2.5	31
20	Level-crossing spectroscopy of the 7, 9, and 10D5 ² states of Cs133 and validation of relativistic many-body calculations of the polarizabilities and hyperfine constants. Physical Review A, 2007, 75, .	2.5	30
21	Permanent electric dipoles and λ -doubling constants in the lowest 1^1 states of RbCs. Physical Review A, 2005, 71, .	2.5	29
22	Fourier transform spectroscopy and direct potential fit of a shelflike state: Application to $\langle i \rangle E \langle i \rangle (4) 1^1 \Sigma^+ \text{ KCs}$. Journal of Chemical Physics, 2011, 134, 104307.	3.0	29
23	Lifetimes and transition dipole moment functions of NaK low lying singlet states: Empirical and ab initio approach. Journal of Chemical Physics, 1998, 109, 6725-6735.	3.0	28
24	Line intensities in V-type polarization labelling spectroscopy of diatomic molecules. Journal of Quantitative Spectroscopy and Radiative Transfer, 1997, 58, 53-60.	2.3	26
25	Near-dissociation photoassociative production of deeply bound NaCs molecules. Physical Review A, 2010, 82, .	2.5	26
26	HIGH-RESOLUTION FOURIER TRANSFORM SPECTROSCOPY OF LANTHANUM IN Ar DISCHARGE IN THE NEAR-INFRARED. Astrophysical Journal, Supplement Series, 2013, 208, 18.	7.7	25
27	NaK λ doubling and permanent electric dipoles in low-lying 1^1 states: λ -Experiment and theory. Physical Review A, 1998, 58, 1932-1943.	2.5	23
28	High resolution spectroscopy and potential determination of the $(3) 1^1$ state of NaCs. Journal of Chemical Physics, 2006, 124, 174310.	3.0	23
29	$\langle i \rangle F \langle i \rangle$ -resolved magneto-optical resonances in the $\langle i \rangle D \langle i \rangle$ states of cesium: Experiment and theory. Physical Review A, 2008, 78, .	2.5	22
30	Nonlinear magneto-optical resonances at $D1$ excitation of $R85$ and $R87b$ for partially resolved hyperfine levels. Physical Review A, 2009, 79, .	2.5	22
31	$\langle i \rangle X \langle i \rangle$ transitions in $\langle i \rangle D \langle i \rangle$ states of cesium: Experiment and theory. Physical Review A, 2009, 79, .	2.5	22
32	Fourier-transform spectroscopy of $(4) 1^1 \Sigma^+ \hat{a}^+$ $\langle i \rangle A \langle i \rangle$ and $\langle i \rangle B \langle i \rangle$ transitions in KCs and deperturbation treatment of $\langle i \rangle A \langle i \rangle$ and $\langle i \rangle B \langle i \rangle$ states. Journal of Chemical Physics, 2013, 139, 244301.	3.0	22
33	Accurate characterisation of the $C(3) 1^1 \Sigma^+$ state of the NaRb molecule. European Physical Journal D, 2005, 36, 57-65.	1.3	20
34	The $D1^1$ state of the NaRb molecule. European Physical Journal D, 2005, 36, 49-55.	1.3	20
35	Permanent electric dipoles in $B\hat{\Sigma}[sup 1]^1$ and $D\hat{\Sigma}[sup 1]^1$ states of NaRb: Experiment and theory. Journal of Chemical Physics, 2000, 113, 4896.	3.0	19
36	The B^1 state of NaCs: High resolution laser induced fluorescence spectroscopy and potential construction. Journal of Chemical Physics, 2007, 127, 224302.	3.0	19

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37	Hyperfine structure study of atomic niobium with enhanced sensitivity of Fourier transform spectroscopy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 205001.	1.5	19
38	Long-range coupling of X $1^1\Sigma^+$ state of K^+ ions. Journal of Chemical Physics, 2012, 136, 064304.	2.5	19
39	Hyperfine structure measurements of neutral niobium with Fourier transform spectroscopy. Astronomy and Astrophysics, 2010, 516, A70.	5.1	18
40	Conversion of bright magneto-optical resonances into dark resonances at fixed laser frequency for D2 excitation of atomic rubidium. Physical Review A, 2012, 85, .	2.5	18
41	$\text{Na}^{21}\text{D}1^1$ electric dipole moment measurement by Stark level crossing and F^{mixing} spectroscopy. Journal of Chemical Physics, 1997, 106, 2195-2204.	3.0	17
42	Experimental studies of the NaRb ground-state potential up to the $v=76$ level. Physical Review A, 2002, 66, .	2.5	17
43	$B(1)^1$ state of KCs: High-resolution spectroscopy and description of low-lying energy levels. Journal of Chemical Physics, 2012, 136, 064304.	3.0	17
44	Direct excitation of the $a^1\Sigma^+$ state of K^+ ions. Journal of Chemical Physics, 2012, 136, 064304.	2.5	16
45	Extended Fourier-transform spectroscopy studies and deperturbation analysis of the spin-orbit coupled $A^1\Sigma^+$ and $b^3\Sigma^-$ states in RbCs. Journal of Chemical Physics, 2014, 141, 184309.	3.0	16
46	Line Identification of Atomic and Ionic Spectra of Holmium in the Near-UV. Part I. Spectrum of Ho I. Astrophysical Journal, Supplement Series, 2017, 228, 16.	7.7	16
47	Electric field induced hyperfine level-crossings in (nD)Cs at two-step laser excitation: Experiment and theory. Optics Communications, 2006, 264, 333-341.	2.1	15
48	HYPERFINE STRUCTURE CONSTANTS OF ENERGETICALLY HIGH-LYING LEVELS OF ODD PARITY OF ATOMIC VANADIUM. Astrophysical Journal, Supplement Series, 2014, 214, 9.	7.7	15
49	Fourier-transform spectroscopy and deperturbation analysis of the spin-orbit coupled $A^1\Sigma^+$ and $b^3\Sigma^-$ states of KRb. Journal of Chemical Physics, 2016, 144, 144310.	3.0	15
50	J-selective Stark orientation of molecular rotation in a beam. Physical Review Letters, 1992, 69, 3463-3466.	7.8	14
51	The origin of \hat{L} -doubling effect for the $B^1\Sigma^+$ and $D^1\Sigma^+$ states of NaK. Journal of Chemical Physics, 2000, 113, 8589-8593.	3.0	14
52	Hyperfine level structure in nitrogen-vacancy centers near the ground-state level anticrossing. Physical Review B, 2019, 100, .	3.2	14
53	Dynamic N nuclear spin polarization in nitrogen-vacancy centers in diamond. Physical Review B, 2020, 102, .	3.2	14
54	Emergence of circularity at linear polarized excitation of molecules. Journal of Chemical Physics, 1993, 99, 5742-5747.	3.0	13

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55	Alignment-orientation conversion by quadratic Zeeman effect: Analysis and observation for Te ₂ . Journal of Chemical Physics, 1993, 99, 5748-5753.	3.0	13
56	Quasirelativistic transition property calculations by the intermediate Hamiltonian method: Electronic transition dipole moments and radiative lifetimes in Te ₂ . Physical Review A, 2001, 63, .	2.5	13
57	Analogue of oscillation theorem for nonadiabatic diatomic states: application to the A ¹ Σ ⁺ and b ³ Σ ⁻ states of KCs. Physical Chemistry Chemical Physics, 2010, 12, 4809.	2.8	13
58	Hyperfine structure of the 3d ³ 4s4p ⁶ G multiplet of atomic vanadium. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 215001.	1.5	13
59	Ab initio multi-reference perturbation theory calculations of the ground and low-lying electronic states of the KRb molecule. Computational and Theoretical Chemistry, 2016, 1089, 35-42.	2.5	13
60	Line Identification of Atomic and Ionic Spectra of Holmium in the Visible Spectral Range. I. Spectrum of Ho i. Astrophysical Journal, Supplement Series, 2019, 240, 27.	7.7	13
61	Spin-orbit coupling in the D ¹ d ³ complex of ²³ Na ³⁹ K. Molecular Physics, 1999, 96, 955-961.	1.7	12
62	Electric-Field-Induced Symmetry Breaking of Angular Momentum Distribution in Atoms. Physical Review Letters, 2006, 97, 043002.	7.8	12
63	Line Identification of Atomic and Ionic Spectra of Holmium in the Near-UV. II. Spectra of Ho ii and Ho iii. Astrophysical Journal, Supplement Series, 2017, 228, 17.	7.7	11
64	A missing link: What is behind de Broglie's "periodic phenomenon"? Foundations of Physics Letters, 1996, 9, 575-586.	0.6	10
65	LIF intensity distribution as a deperturbation tool: application to the fully-mixed " complex of NaRb. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 95, 165-174.	2.3	10
66	Level anti-crossing magnetometry with color centers in diamond. Proceedings of SPIE, 2017, , .	0.8	10
67	Colloidal nanoparticle sorting and ordering on anodic alumina patterned surfaces using templated capillary force assembly. Surface and Coatings Technology, 2017, 326, 264-269.	4.8	10
68	Line Identification of Atomic and Ionic Spectra of Holmium in the Visible Spectral Range. II. Spectrum of Ho ii and Ho iii. Astrophysical Journal, Supplement Series, 2019, 240, 28.	7.7	10
69	Experimental and theoretical studies of \hat{I} doublings and permanent electric dipoles in the low-lying $\hat{I}1$ states of NaCs. Journal of Chemical Physics, 2006, 124, 184318.	3.0	9
70	Spectroscopic studies of the X of RbCs and modeling of the optical cycle for ultracold X of RbCs. Physical Review A, 2013, 87, .	2.5	9
71	Fourier-transform spectroscopy and description of low-lying energy levels in the $B(1)1\hat{I}$ state of RbCs. Journal of Chemical Physics, 2013, 138, 154304.	3.0	9
72	HIGH-RESOLUTION FOURIER TRANSFORM SPECTROSCOPY OF Nb i IN THE NEAR-INFRARED. Astrophysical Journal, Supplement Series, 2015, 221, 14.	7.7	9

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73	Investigation of the hyperfine structure of weak atomic Vanadium lines by means of Fourier transform spectroscopy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 115005.	1.5	9
74	Fourier-transform spectroscopy and potential construction of the $(2)1\hat{1}$ state in KCs. Journal of Chemical Physics, 2015, 142, 134309.	3.0	9
75	Potential construction of the B $(1) 1 \hat{1}$ state in KCs based on Fourier-Transform spectroscopy data. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 151, 1-4.	2.3	9
76	Estimating the magnetic moment of microscopic magnetic sources from their magnetic field distribution in a layer of nitrogen-vacancy (NV) centres in diamond. EPJ Applied Physics, 2016, 73, 20701.	0.7	9
77	Fourier-transform spectroscopy, relativistic electronic structure calculation, and coupled-channel deperturbation analysis of the fully mixed $A^1\Sigma^+$ state of K^+ . Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 276, 107902.	2.5	9
78	Magnetic field induced alignment-to-orientation conversion: Nonlinear energy shift and predissociation in $\text{Te}2\text{B}1$ ustate. Journal of Chemical Physics, 1996, 105, 37-49.	3.0	8
79	Nonlinear magneto-optical resonances at 455 nm excitation of cesium. Optics Communications, 2011, 284, 2863-2871.	2.5	8
80	Alignment-to-orientation conversion in a magnetic field at nonlinear excitation of the $\text{D}2$ line of rubidium: Experiment and theory. Physical Review A, 2015, 91, .	2.5	8
81	Cascade coherence transfer and magneto-optical resonances at 455 nm excitation of cesium. Optics Communications, 2011, 284, 2863-2871.	2.1	7
82	Dependence of the shapes of nonzero-field level-crossing signals in rubidium atoms on the laser frequency and power density. Physical Review A, 2013, 87, .	2.5	7
83	Fourier-transform spectroscopy and relativistic electronic structure calculation on the $c^3\Sigma^-$ state of KCs. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 276, 107902.	2.5	6
84	Separation of quadratic and linear external field effects in high-quantum beats. Journal of Chemical Physics, 1994, 101, 5559-5565.	3.0	6
85	Radiative lifetimes of the $\text{NaRb } C(3)1\hat{1}\Sigma^+$ state: experiment and theory. European Physical Journal D, 2006, 39, 373-378.	1.3	6
86	Radiative lifetimes of the $c^3\Sigma^-$ state of K^+ . Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 276, 107902.	2.5	6
87	Separation of quadratic and linear external field effects in high-quantum beats. Journal of Chemical Physics, 1994, 101, 5559-5565.	2.5	6
88	Relaxation mechanisms affecting magneto-optical resonances in an extremely thin cell: Experiment and theory for the cesium $\text{D}1$ line. Physical Review A, 2015, 91, .	2.5	6
89	The branching ratio of intercombination $A^1\Sigma^+ \rightarrow B^1\Sigma^+$ transition in K^+ molecules. Physical Review A, 2012, 85, .	2.5	6
90	Influence of the Stark effect on the fluorescence polarization of $X1\hat{1}\Sigma^+ \rightarrow B1\hat{1}\Sigma^+$ state laser-excited NaRb : application to the direct imaging of electric fields. Journal Physics D: Applied Physics, 2001, 34, 624-630.	2.8	5

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91	Strobe imaging of electric fields by depolarization of Rydberg states of Hg. Journal Physics D: Applied Physics, 2001, 34, 1933-1938.	2.8	5
92	Spontaneous lifetimes and relaxation cross-sections of the D1 $\hat{1}$ state of NaRb. Chemical Physics Letters, 2003, 382, 593-598.	2.6	5
93	Energy and radiative properties of the (3) $\hat{1}$ and (5) $\hat{1}$ +1 states of RbCs: Experiment and theory. Physical Review A, 2017, 96, .	2.5	5
94	Cross-relaxation studies with optically detected magnetic resonances in nitrogen-vacancy centers in diamond in external magnetic field. Physical Review B, 2021, 103, .	3.2	3
95	Observation and modeling of bound-free transitions to the $\langle i \rangle X \langle /i \rangle 1\hat{1}\xi+$ and $\langle i \rangle a \langle /i \rangle 3\hat{1}\xi+$ states of KCs. Journal of Chemical Physics, 2022, 156, 114305.	3.0	3
96	Electric field induced alignment-orientation conversion in diatomic molecules: analysis and observation for NaK. Journal of Molecular Structure, 1999, 480-481, 283-287.	3.6	2
97	Publisher's Note: Deperturbation treatment of the $A\hat{1}\xi+1\hat{a}\hat{e}^{-}b\hat{1}3$ complex of NaRb and prospects for ultracold molecule formation in $X\hat{1}\xi+1$ ($v=0; j=0$) [Phys. Rev. A75, 042503 (2007)]. Physical Review A, 2007, 75, .	2.5	2
98	Spatial dynamics of laser-induced fluorescence in an intense laser beam: An experimental and theoretical study with alkali-metal atoms. Physical Review A, 2016, 93, .	2.5	2
99	Fluorescent nanodiamond array deposition on porous anodized aluminum oxide using asperity assisted capillary force assembly. Proceedings of the Estonian Academy of Sciences, 2017, 66, 416.	1.5	2
100	Ab initio quasirelativistic calculations on angular momentum and magnetic couplings of molecular electronic states. Chemical Physics Letters, 2002, 356, 277-283.	2.6	1
101	Title is missing!. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 189802-189802.	1.5	1
102	Coherent and incoherent processes responsible for various characteristics of nonlinear magneto-optical signals in rubidium atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 185003.	1.5	1
103	Fourier-transform spectroscopy, direct potential fit, and electronic structure calculations on the entirely perturbed (4) $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mpace width="0.16em"} \rangle \langle \text{mml:mn} \rangle 1 \langle \text{mml:mn} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mi} \text{The '}$ $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mi} \rangle a \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mstyle mathvariant="normal"} \rangle \langle \text{mml:mi} \rangle \hat{\xi} \langle \text{mml:mi} \rangle \langle \text{mml:mstyle} \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$	2.5	1
104	The 'a' state of KCs revisited: Hyperfine structure analysis and potential refinement. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 283, 108124.		
105	Studies of rotational level $\hat{1}$ -doubling by rf-optical double resonance spectroscopy: application to NaK D1 $\hat{1}$. Journal of Molecular Structure, 1997, 410-411, 55-58.	3.6	0
106	Experimental study of the long range interactions between a Na (3S) and a Rb (5S) atom. , 2005, , .		0
107	Coherent effects in Cs (nD) states in the presence of an external electric field. , 2007, , .		0
108	$\langle \text{title} \rangle$ Level-crossing spectroscopy of the 7, 9, and 10D states of Cs in an external electric field $\langle \text{/title} \rangle$. , 2007, , .		0

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109	Spin-orbit, radial, and angular coupling effects in the NaRb excited states. , 2009, , .		0
110	Magnetic Field Gradiometer with Sub-Micron Spatial Resolution Based on Caesium Vapour in an Extremely Thin Cell. Latvian Journal of Physics and Technical Sciences, 2015, 52, 3-10.	0.6	0
111	A Numbers-Based Approach to a Free Particle's Proper Spacetime. Foundations of Physics, 2021, 51, 1.	1.3	0
112	Optical Non-Contact Electric Field Mapping by LIF in Cs Vapor. , 2007, , .		0
113	MODELLING MAGNETO-OPTICAL RESONANCES IN ATOMIC RUBIDIUM AT D1 EXCITATION IN EXTREMELY THIN CELLS WHILE MAINTAINING A SELF-CONSISTENT SET OF THEORETICAL PARAMETERS. , 2010, , .		0
114	Detection of magnetic thin film impurity phases using nitrogen vacancy centers in diamond crystal. , 2019, , .		0