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Fuhr, J. R./Bibliography on atomic line s
QC100.U57 NO.366, SUPPL.2, 197 C.1 NBS-P



BUREAU OF STANDARDS

NBS SPECIAL PUBLICATION 366

SUPPLEMENT 2

U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards

Bibliography on Atomic Line Shapes and Shifts

(July 1973 through May 1975)

QC
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no.366
Suppl.2
1975
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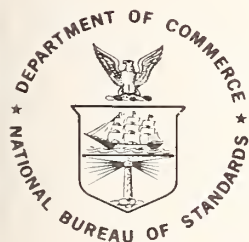
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Bibliography on Atomic Line Shapes and Shifts

(July 1973 through May 1975)

J. R. Fuhr, G. A. Martin, and B. J. Specht

Institute for Basic Standards
National Bureau of Standards
Washington, D.C. 20234



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Issued November 1975

Library of Congress Catalog Card Number: 72-600147

National Bureau of Standards Special Publication 366 Supplement 2

Nat. Bur. Stand. (U.S.), Spec. Publ. 366 Suppl. 2, 75 pages (Nov. 1975)

CODEN: XNBSAV

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1975

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Foreword

The National Standard Reference Data System was established in 1963 for the purpose of promoting the critical evaluation and dissemination of numerical data of the physical sciences. The program is coordinated by the Office of Standard Reference Data of the National Bureau of Standards but involves the efforts of many groups in universities, government laboratories, and private industry. The primary aim of the program is to provide compilations of critically evaluated physical and chemical property data. These tables are published in the *Journal of Physical and Chemical Reference Data*, in the NSRDS-NBS series of the National Bureau of Standards, and through other appropriate channels.

The task of critical evaluation is carried out in various data centers, each with a well-defined technical scope. A necessary preliminary step to the critical evaluation process is the retrieval from the world scientific literature of all papers falling within the scope of the center. Each center, therefore, builds up a comprehensive well-indexed bibliographical file which forms the base for the evaluation task. Bibliographies derived from these files are published when they appear to be of value to research workers and others interested in the particular technical area.

Further information on NSRDS and the publications which form the primary output of the program may be obtained by writing to the Office of Standard Reference Data, National Bureau of Standards, Washington, DC 20234.

David R. Lide, Jr., Chief
Office of Standard Reference Data

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BIBLIOGRAPHY ON ATOMIC LINE SHAPES AND SHIFTS (July 1973 through May 1975)

J. R. Fuhr, G. A. Martin, and B. J. Specht

This is the second supplement to the NBS Special Publication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 400 references and covers the literature from July 1973 through May 1975. As before, the bibliography contains five major parts: (1) All general interest papers are catalogued according to the broadening mechanisms (and, further, according to special topics under several of the mechanisms) and as to whether the work is a general theory, a general review, a table of profiles or parameters, a comment on existing work, a study of general experimental measurement techniques, or an experimental effort of general importance. Also included are selected papers on important applications of line broadening and on miscellaneous topics relating to atomic spectral line shapes and shifts. (2) In Part 2, all papers containing numerical data are ordered as to element, ionization stage, and broadening mechanism (in the case of foreign gas broadening the perturbing species are listed), and it is indicated whether the data are experimentally or theoretically derived. (3) While in the two preceding parts of the bibliography the references are listed for brevity by identification numbers only, in Part 3 all references are listed completely by journal, authors, and title and are generally arranged chronologically and alphabetically within each year according to the principal author. (4) This section contains a list of all authors and their papers. (5) A final section provides corrections or additions to the first bibliography and supplement.

Key words: Atomic; instrumental broadening; line shapes; line shifts; pressure broadening; resonance broadening; Stark broadening; Van der Waals broadening.

A. INTRODUCTION

Since the publication of our latest "Bibliography on Atomic Line Shapes and Shifts (April 1972 through June 1973),"¹ which is the first supplement to our original bibliography,² the number of articles containing either numerical data, reviews, or comments of general interest has again increased sufficiently as to warrant a new supplement. This second supplement, containing about 400 references, includes all new papers (and a few older papers that were missed before) that were received in the NBS library before May 31, 1975. In addition, we have incorporated English translations of previously cited Russian articles into this bibliography.

The arrangement of the preceding bibliographies is generally retained. Thus, recently discovered articles published prior to 1973 are listed in Section 3 under the year of publication with a number immediately following the last number cited for that year in either the original bibliography or the first supplement. These

new numbers do not overlap with those of the following year as several "open" numbers were left at the end of each year for such additions. Unfortunately, we ran out of "open" numbers between the years 1970 and 1971. Hence, for these years the references are not listed in strict numerical order.

Since we feel that our collection of articles for the year 1973 is now reasonably complete, all references for that year have been renumbered for this supplement and are listed here with the new numbers. As in the first supplement, we have provided an errata section. This section consists of corrections and additions to Supplement 1, as well as to the original bibliography, not already noted in Supplement 1. Finally, in this last section, we provide references to English translations of previously cited Russian articles.

We gratefully acknowledge the many helpful comments and suggestions of Dr. W. L. Wiese. We would also like to express our sincere thanks to Dr. L. J. Roszman, who helped in the selection and classification of the articles.

¹ Fuhr, J. R., Roszman, L. J., and Wiese, W. L., Bibliography on Atomic Line Shapes and Shifts (April 1972 through June 1973), Nat. Bur. Stand. (U.S.), Spec. Publ. 366, Suppl. 1, 73 pages (Jan. 1974).

² Fuhr, J. R., Wiese, W. L., and Roszman, L. J., Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972), Nat. Bur. Stand. (U.S.), Spec. Publ. 366, 165 pages (Sept. 1972).

TABLE OF CODE LETTERS AND ABBREVIATIONS

A. Description

1. T—theoretical method
2. E—experimental method
3. C—comment

B. Language

1. Dut.—Dutch
2. Fr.—French
3. Ger.—German
4. Ital.—Italian
5. Lith.—Lithuanian
6. Pol.—Polish
7. Russ.—Russian

B. BIBLIOGRAPHICAL MATERIAL

1. LITERATURE REFERENCES OF GENERAL INTEREST

1.0. GENERAL ARTICLES ON LINE SHAPES AND SHIFTS (GENERAL THEORIES AND COMMENTS, ETC.)

Theoretical papers: 2288, 2327

1.1. PRESSURE BROADENING

Theoretical papers: 1368, 2092, 2093, 2160, 2253, 2263, 2276, 2285, 2332, 2336, 2342, 2343, 2346, 2359, 2413, 2434, 2487, 2508, 2513

1.1.1. Stark broadening and shifts

Theoretical papers: 1372, 2143, 2232, 2270, 2274, 2283, 2285, 2328, 2329, 2382, 2420, 2436, 2440, 2460, 2508

1.1.1.1. Hydrogen and hydrogen-like (overlapping) lines

Comments: 2196

Theoretical papers: 1368, 1371, 1879, 2153, 2187, 2216, 2281, 2282, 2286, 2300, 2420, 2423, 2453

1.1.1.2. Isolated lines of neutral spectra

Comments: 2104

Theoretical papers: 2174, 2349

1.1.1.3. Isolated lines of ionic spectra

Comments: 2104

1.1.1.4. Topics of particular interest

A. Line wings

Theoretical papers: 2281

B. Effects of collective electric fields

Experimental papers: 2188, 2189, 2191,
2256, 2269, 2368,
2424, 2492

Theoretical papers: 1892, 2449, 2510

C. Asymmetries of H-lines

Theoretical papers: 2146, 2281

D. Microfield distributions

Experimental papers: 2269

Theoretical papers: 2187, 2220, 2275,
2431, 2440, 2443,
2517

E. Magnetic fields

Theoretical papers: 2391

F. Turbulent plasmas

Theoretical papers: 1892

1.1.2. Broadening in foreign gases (van der Waals broadening)

Theoretical papers: 2106, 2137, 2157, 2165, 2184, 2199,
2236, 2249, 2337, 2372, 2402, 2434,
2511

1.1.2.1. Satellite bands

Comments: 2171

Experimental papers: 2338, 2375, 2392

Theoretical papers: 2141, 2144, 2168, 2195,
2279, 2437

Combined theoretical-experimental: 2404

1.1.3. Resonance broadening

Comments: 2099

Theoretical papers: 738, 1020, 2169, 2185, 2200, 2234,
2255, 2385, 2520, 2522

1.2. BASIC ARTICLES ON DOPPLER AND NATURAL LINE SHAPES

1.2.1. Doppler broadening

Experimental papers: 2287

Theoretical papers: 2175, 2181, 2199, 2364, 2418, 2486,
2497

1.2.2. Natural line broadening

No papers in this category.

1.2.3. Radiation induced broadening

Experimental papers: 1995, 2178

Theoretical papers: 738, 2011, 2147, 2159, 2194, 2199,
2388, 2394, 2462

Combined theoretical-experimental: 2290

1.3. BASIC PAPERS ON INSTRUMENTAL BROADENING, DECONVOLUTION,
SUPERPOSITION OF TWO OR MORE SIMULTANEOUSLY ACTING BROADENING
MECHANISMS

1.3.1. Determination of instrumental line profiles; experimental
techniques for determining line shapes

Experimental papers: 1690, 1691, 2287, 2297, 2356, 2357,
2444

Theoretical papers: 1839, 1840, 1868, 1887, 1894, 1897,
1940, 1996, 1999, 2024, 2192, 2215,
2226, 2235, 2250, 2262, 2295, 2414,
2429

1.3.2. Deconvolution

Experimental papers: 2230

Theoretical papers: 293, 802, 1243, 1244, 1374, 1868,
1889, 1996, 2024, 2167, 2227, 2235,
2242, 2264, 2289, 2303, 2378, 2383,
2390, 2410, 2430, 2447, 2455, 2459

1.3.3. Superposition of broadening mechanisms

Theoretical papers: 1899, 2096, 2105, 2175, 2192, 2199,
2201, 2209, 2215, 2262, 2339, 2364,
2381, 2396, 2430, 2448, 2455, 2456,
2457, 2497, 2512, 2514

1.4. IMPORTANT LINE BROADENING APPLICATIONS

1.4.1. Laser applications

Experimental papers: 1126, 1789, 1995, 2155, 2178, 2213,
2225, 2252, 2277, 2299, 2334

Theoretical papers: 2181, 2223, 2263, 2336, 2344, 2345,
2405, 2493

Combined theoretical-experimental: 2369

1.4.2. Astrophysical applications

Theoretical papers: 2182, 2201, 2210, 2254, 2266, 2298,
2348, 2371, 2384, 2430, 2504, 2506,
2511

Combined theoretical-experimental: 2284

1.4.3. Plasma diagnostics

Comments: 2251, 2296

Experimental papers: 1878, 1890, 1893, 1900, 2110, 2193,
2219, 2221, 2265, 2273, 2304, 2408,
2417, 2428, 2503

Theoretical papers: 1888, 1892, 2175, 2181, 2197, 2248,
2351, 2371, 2451, 2499

Combined theoretical-experimental: 1019, 1689, 2094,
2152, 2330, 2438

1.4.4. Other applications

Experimental papers: 942, 2190

Theoretical papers: 1895, 2261, 2292, 2346

Combined theoretical-experimental: 2290, 2291, 2330,
2353

1.5. OTHER TOPICS INVOLVING LINE SHAPES AND SHIFTS

1.5.1. The line shape in the presence of self-absorption; effects of radiative transfer

Comments: 2074

Experimental papers: 2297

Theoretical papers: 2112, 2177, 2210, 2301, 2398, 2419,
2486

1.5.2. Broadening of scattered radiation

Comments: 2074

Experimental papers: 2136, 2393

Theoretical papers: 2106, 2302, 2486

1.5.3. Some important papers on molecular line broadening

Reviews: 2222, 2427

Theoretical papers: 2137, 2149, 2183, 2184, 2255, 2293,
2363

1.5.4. Miscellaneous topics

A. Broadening of x-ray lines

Theoretical papers: 2333, 2399, 2405

B. Light shifts

Experimental papers: 2502

Theoretical papers: 1375, 2355, 2377, 2401, 2490

Combined theoretical-experimental: 2156

C. Zeeman broadening

Theoretical papers: 2098, 2253

D. Spin-exchange broadening

Theoretical papers: 2200

1.6. REVIEW ARTICLES

1.6.1. General line broadening reviews

2111

1.6.2. Reviews on pressure broadening

2108, 2109, 2439, 2487

1.6.2.1. Reviews on Stark broadening

2371

1.6.2.2. Reviews on foreign gas broadening

2516

1.6.2.3. Reviews on resonance broadening

1373, 2185

1.7. REFERENCES ON LINE BROADENING TABLES AND BIBLIOGRAPHIES

1.7.1. General line broadening tables

No papers in this category.

1.7.2. Pressure broadening tables

No papers in this category.

1.7.2.1. Special Stark broadening tables

2212, 2294, 2371, 2484

1.7.3. Doppler and natural line broadening tables

No papers in this category.

1.7.4. Tables of Voigt functions

No papers in this category.

1.7.5. Line broadening bibliographies

2361

2. LITERATURE REFERENCES CONTAINING NUMERICAL DATA

(References on individual elements and stages of ionization,
classified according to broadening mechanism)

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
		<u>Ar II</u>	
Ag (Silver)		Stark, E	2148,2221,2230, 2395
<u>Ag I</u>		Stark, T	2211
Van der Waals, E	2455 by Air-C ₂ H ₂ 1898 by H ₂ -O ₂ -Ar	<u>Ar III</u>	2509
		<u>Ar IV</u>	2509
Al (Aluminum)			
		<u>Ba (Barium)</u>	
<u>Al I</u>		<u>Ba I</u>	
Stark, E	2458	Van der Waals, E	1369,2162 by Ar 1369,2162 by He 1369 by Kr 1369 by Ne
Van der Waals, E	2454 by C ₂ H ₂ -N ₂ O		
Doppler-Van der Waals, T,E	2297 by C ₂ H ₂ -N ₂ O	Van der Waals, T	2441 by Ar 2441 by He 2441 by Kr 2441 by Ne 2441 by Xe
<u>Al II</u>			
Stark, E	2202		
Stark, T,E	2483		
Ar (Argon)			
		<u>Ba II</u>	
<u>Ar I</u>		Stark, E	2198
Resonance, E	2193,2341	Van der Waals, E	2134,2135,2163, 2380, 2446 by Ar 2134,2135,2163, 2380,2446 by He 2446 by Kr 2446 by Ne 2446 by Xe
Stark, E	2023,2148,2428		
Stark, T	1775		
Stark, T,E	1372		
Van der Waals, E	2341,2501 by Ar		
Van der Waals, T	1775 by Ar		
Van der Waals, T,E	2096 by Ar		
Stark-Doppler- Instrumental, E	1893		

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
Fe (Iron)			
<u>Fe I</u>			
Van der Waals, E	2365 by Ar	Stark, E	2094,2142,2186, 2228,2229,2233, 2304,2357,2358, 2382,2408,2426, 2428,2492
Van der Waals, T	2170 by He	Stark, T	2187,2216,2231, 2282,2283,2286, 2340,2347,2351, 2420,2460,2510, 2515,2521
	2491 by H		
<u>Fe XXIV</u>			
Stark, T	2453		
<u>Fe XXV</u>			
Stark, T	2453	Stark, E,C	2214
Ga (Gallium)			
<u>Ga I</u>			
Van der Waals, E	2257 by Ar	Stark, T,E	2203
	2454 by C ₂ H ₂ -N ₂ O	Van der Waals, E	2245 by Ar
	2257 by He	Van der Waals, T	2157 by Ar
	2257 by Kr		2157 by He
	2257 by Ne		2157 by Kr
	2257 by Xe	Van der Waals, T,E	2157 by Ne
Van der Waals, T,E	2258 by Ar		2496 by Ar
	2258 by He	Stark-Doppler, E	2496 by He
	2258 by Kr		2496 by Ne
	2258 by Ne	Stark-Doppler, E	2428
	2258 by Xe	Stark-Doppler- Instrumental, E	1893
Doppler-Van der Waals, T,E	2297 by C ₂ H ₂ -N ₂ O	Stark-Zeeman, E	2094
		Stark-Zeeman, T	2248
Ge (Germanium)			
<u>Ge I</u>			
Stark, E	2389	Resonance, E	2158,2400
<u>Ge II</u>			
Stark, T,E	2389	Stark, E	1878,2240,2335, 2350,2354,2379, 2382,2403,2424, 2485,2492
H (Hydrogen)			
<u>H I</u>			
Resonance, T	2279	Stark, T,E	2238,2246,2370
Stark, C	2296	Van der Waals, T	2179 by He

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
Van der Waals, T	2195 by Ar	Van der Waals, E	2102 by Ar
	2195,2498 by He	Van der Waals, T	2372 by Ar
	2195 by Kr		2372 by He
	2195 by Ne		2372 by Kr
	2195 by Xe		2372 by Xe
Van der Waals, T,E	2404 by Kr		2372 by Xe
Doppler-Van der Waals, T,E	2297 by C ₂ H ₂ -N ₂ O		

Kr (Krypton)

<u>Kr I</u>	
Resonance, E	2207
Van der Waals, E	2366 by Ar
	2366 by He
Van der Waals, T	2195,2511 by Ar
	2195,2511 by He
	2195 by Kr
	2195 by Ne
	2195 by Xe

Li (Lithium)

<u>Li I</u>	
Stark, E	2145,2243,2304, 2408
Stark, T	1895,2274,2292
Stark, T,E	2291,2330
Van der Waals, E	2163 by Ar
	2163 by He
Van der Waals, T	2271 by He

Mg (Magnesium)

<u>Mg I</u>	
Stark, E	2102
Van der Waals, E	2102 by Ar
	1898 by H ₂ -O ₂ -Ar
<u>Mg II</u>	
Stark, E	2102,2198
Stark, T	2211

Mn (Manganese)

<u>Mn I</u>	
Van der Waals, E	2267 by Ar
	2454 by C ₂ H ₂ -N ₂ O
	2267 by He
	2267 by H ₂
	2267 by N ₂
Doppler-Van der Waals, T,E	2297 by C ₂ H ₂ -N ₂ O

Mo (Molybdenum)

<u>Mo I</u>	
Doppler-Van der Waals, T,E	2297 by C ₂ H ₂ -N ₂ O

N (Nitrogen)

<u>N I</u>	
Stark, E	2442
Stark, T,E	2150
<u>N II</u>	
Stark, T	2211
Stark-Natural, T	2038

Na (Sodium)

<u>Na I</u>	
Resonance, E	2505
Resonance, T	1888
Resonance, T,E	2112
Stark, E	2219

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Cooper, J.	2168,2169, 2246,2285, 2286,2294, 2328,2340, 2407,2456, 2457,2484, 2504	Deutch, J. M.	2137
Copley, G. H.	2158,2170, 2341,2501	Deutsch, C.	2174,2349, 2519
Corney, A.	2159	Diana, M.	2150
Coulaud, G.	2349,2519	Diatta, C.	2350
Cravens, T. E.	2097	Dimitrijevic, M.	2509
Crosley, D. R.	2461	Djenize, S.	2268,2395, 2425
Curzon, F. L.	2096	Dmitrieva, E. A.	1995
Czuchaj, E.	2342,2343	Dolginov, A. Z.	2351
D'Alessio, A.	2150	Doncker, E. de	2511
Dalgarno, A.	2171	Dontsov, Yu. P.	2175
Das, T. P.	2179,2271, 2274	Dorenburg, K.	2176,2352
Decius, J. C.	802	Douda, B. E.	2353
Decomps, B.	1126	Drawin, H. W.	2177,2248, 2354
Degnan, J. J.	2344	Dubovoi, L. V.	2094
Dekker, H.	2345	Dubreuil, B.	2178,2355, 2490
Deleage, J. P.	2173	Dugan, C. H.	2205
Demura, A. V.	2281,2282, 2346,2347	Dumont, M.	1126
Deputatova, L. V.	2112	Dunning-Davies, J.	2165
Deridder, G.	2348,2511	Duong, M. D.	2356
		Dutta, C. M.	2179
		Dutta, N. C.	2179

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Dyatlov, V. G.	1689	Frish, M. S.	2103
Edmunds, M. G.	2491	Fuhr, J. R.	2361
Ehrich, H.	2357	Fussmann, G.	2186,2187
Elbel, M.	2180	Gabriel, A. H.	2188,2189
Eletskii, A. V.	2181	Galan, L. de	2297,2378, 2454,2455
Eliseev, V. V.	2212	Galanti, M.	2256
Emard, F.	2177	Gallagher, A.	2190,2338, 2362
Ensberg, E. S.	2245	Gallagher, C. C.	2191,2492
Eremina, N. M.	1891	Galtsev, A. P.	2363
Evans, D. L.	2358	Gamo, H.	2192
Farr, J. M.	2404	Gass, D. M.	2293
Fischel, D.	2182	Gay, J. C.	2098
Fishman, I. S.	2209	George, E. V.	2379,2424
Fitz, D. E.	2183	Gerbal, D.	2364
Fiutak, J.	2359	Gersten, J. I.	2157
Fleurier, C.	2350	Gilbert, A.	2365
Fomin, V. D.	2074	Giraud, M.	2394
Fomin, V. V.	2184,2234	Girault, M.	2426
Frandsen, W. H.	2489	Gladushchak, V. I.	2366
Franken, L. P. L.	2204	Glas, H.-J.	2176,2352
Freeman, R. R.	2360	Golubovskii, Yu. B.	2099,2193
Freinkman, B. G.	2181		

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Goly, A.	1370,2100	Hall, J. L.	2199
Gontier, Y.	2194	Hall, R. B.	2458
Goto, T.	2367,2368, 2409	Halpern, J. B.	2376
Grabowski, B.	1370,1371, 1372,2100	Hammond, G. L.	2494
Granier, J.	2195	Happer, W.	2200,2377
Granier, R.	2195	Harder, A. den	2378
Graubner, F.	2369	Hartmann, S.·R.	2185
Grechikhin, L. I.	1019	Hawryluk, R. J.	2379
Greenstein, H.	2493	Hearn, A. G.	2201
Greig, J. R.	2370	Heek, H. F. van	1690
Griem, H. R.	2196,2229, 2371,2483	Heering, W.	2495
Griffin, P. M.	2207	Helbig, V.	2102
Groot, J. J. De	2197	Henry, M.	1691
Grosswendt, B.	2372	Henry, P. K.	2162,2163, 2380
Gruzdev, V. A.	2265	Herbert, F.	2381
Gruzniczki, F.	2095	Herman, L.	1368
Grycuk, T.	2373,2374, 2375	Hermann, G.	2369
Grynberg, G.	2488	Hernandez, G.	1887
Gyundel', T. V.	2230	Heuschkel, J.	2202
Hadeishi, T.	2166	Hey, J. D.	2382
Hadziomerspahic, D.	2101,2198	Hill, I. R.	2383
		Hill, R. A.	2358

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Himmel, G.	2186,2187, 2203	Izotova, S. L.	2103
Hindmarsh, W. R.	2404	Jack, A. G.	2197
Hinze, J.	2518	Jacobson, H. C.	2144
Hobby, M. G.	2256	Jannitti, E.	2503
Hollander, Tj.	2204	Jansen, B. J.	2204
Holt, J. N.	2201	JayaRam, K.	1896
Holweger, H.	2384	Jeannet, J.-C.	2110
Hooper, C. F., Jr.	2275,2415, 2431,2460	Jodoin, R.	2388
Hopkins, J. W.	1243,1244	Jones, L. A.	2370
Houben, J. W. M. A.	2416	Jones, R. N.	1243,1244
Howard, R. S.	2205	Jones, W. W.	2211,2278, 2389,2483
Hsiao, T.-L.	2429	Joyce, J. M.	2405
Huhn, R.	2206	Kagan, Yu. M.	2099,2193
Hulst, H. C. van de	293	Kalman, G.	1892
Hurst, G. S.	2419	Kaminishi, K.	2390
Hutcherson, J. W.	2207	Kanda, T.	2409
Hynne, F.	2385	Kapoor, R. N.	1897
Ikenberry, D.	2271	Kartaleva, S. S.	1995
Im, T.-D.	2386,2387	Kasabov, G. A.	2212
Irons, F. E.	2208	Kasakov, A. I.	1893
Ivanov, V. N.	2209	Kats, M. L.	1899,2448
Ivanov, V. V.	2210	Katulín, V. A.	2113

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Kaufman, S. L.	2176,2352	Klinglesmith, D. A.	2182
Kazanova, N. N.	1839	Klykov, I. I.	1996
Kazantsev, A. P.	2386	Kochanov, V. P.	2387
Keil, R.	2213	Kock, L. C. J. M. de	2280
Kelleher, D. E.	2214	Kolganov, A. S.	2265
Kemic, S. B.	2391	Komarova, L. L.	2099,2193
Khakhaev, A. D.	1775,2219	Konjevic, N.	2101,2104, 2198,2509
Khidir, A. L.	802	Korolev, F. A.	1995
Khromykh, A. M.	2277	Kotlikov, E. N.	2154
Kielkopf, J. F.	2215,2392, 2496	Kovalev, I. F.	1868,2024, 2410
Kim, S. H.	2216	Krall, N. A.	2220
Kirillov, V. V.	2112	Krasnowiecki, W.	2375
Kirin, Yu. M.	2393	Krishnaji	2222
Kirkbright, G. F.	2140,2217, 2218	Krylova, S. I.	1775,2219
Kirpichnikova, L. A.	2219	Kucerovsky, Z.	2223
Kiss, A.	2147	Kuchuberiya, I. Kh.	1890
Klarsfeld, S.	2174	Kuhlke, D.	2225,2497
Klein, H. H.	2220	Kuhn, H. G.	1373
Klein, L.	2221,2394	Kulagin, E. V.	2224
Klementev, V. M.	2151	Kunth, D.	2173,2498
Kleppner, D.	2360	Kurochka, L. N.	2499
Klimontovich, Yu. L.	2143,2327	Kusch, H. J.	2102,2202, 2206,2357

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Lagutin, V. I.	1374,1894, 1999,2226	Lorre, J. J.	2235
Landheer, B.	2227	Losen, J.	2236
Larina, M. A.	2403	Luizova, L. A.	1775,2219
LaSalle, T. R.	2228,2229	Lukaszewski, M.	2237
Leavitt, J. A.	2287	Lyublin, B. V.	2094
Lebedeva, V. V.	2230	Macek, J. H.	2399
Leboucher, E.	2500	Mahon, R.	2238
Lee, C. S.	2501	Malakhov, A. M.	2233
Lee, J.-S.	2396	Malvern, A. R.	2400,2444
Lee, R.	2231,2232, 2238,2370, 2397	Malvezzi, A. M.	2503
Lee, T.	2274	Mamyrin, A. B.	2138,2139
Lennuier, R.	2337	Manassah, J. T.	2185
Leskov, L. V.	2233	Mandel, L.	2388
Levine, M. A.	2191,2492	Maquet, A.	2401
Lewis, E. L.	1373,2190, 2362	Marcus, R. A.	2183
Liao, P. F.	2502	Masnou-Seeuws, F.	2498
Licki, J.	1888,2398	Matskevich, V. K.	2402
Lijnse, P. L.	2204	Mattison, E. M.	2360
Lisitsa, V. S.	2282,2346	Matveev, V. S.	2105
Lisyuk, Yu. V.	2011	Matyugin, Yu. A.	2239
		Mayseless, M.	2486
		Mazing, M. A.	2240,2403

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McCartan, D. G.	2404	Muller, D.	2247
McCorkle, R. A.	2405	Muller, E. A.	2384
McIlrath, T. J.	2406	Nawata, S.	2390
Melikyan, A. O.	2106	Nayyar, V. P.	1897
Mendes, M.	2242	Nechaev, S. V.	2136
Mergault, P.	1895,2291, 2292,2330	Nee, T.-J.	2229
Mihalas, D.	2407,2504	Nefedov, A. P.	2112
Mikhalev, V. G.	2145,2243, 2408	Nekrylova, I. M.	2219
Miller, M. H.	2389	Nguyen-Hoe	2248
Miller, R. A.	2392	Nicoghossian, A. G.	2301
Minami, S.	2303	Nicol, J. L.	2400
Minemoto, T.	2409	Niemax, K.	2411,2412, 2505
Mishakov, G. A.	1891,2224	Nienhuis, G.	2249,2413
Misyunas, A.	2244	Norkunas, V.	2244
Mitin, R. V.	2023	Nosach, O. Yu.	2113
Mitina, N. I.	1689,2295	Nosach, V. Yu.	2113
Miyachi, I.	1896	Novikov, I. A.	2250,2414
Molchanov, M. I.	1789	Novotny, I.	2454
Molodenkova, I. D.	1868,2024, 2410	O'Brien, J. T.	2415
Morgan, C. L.	2245	O'Connell, R. F.	2517
Morozov, E. P.	2145	Oda, T.	2251
Morris, R. N.	2246	Odintsov, A. I.	1995

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Ogorodnikov, S. N.	2145,2243, 2408	Penner, S. S.	2261,2262, 2339,2365
Ohi, M.	2252	Perarnau, G.	2422
Oks, E. A.	2283	Perel', V. I.	1020
Olson, E. C.	2506	Pestov, E. G.	2263
Omont, A.	2098,2253	Peytremann, E.	2038
Ooyen, M. H. van	2416	Phelps, A. V.	2161
Oppenheim, I.	2092,2093	Pichler, G.	2247,2411, 2412,2505
Orville, R. E.	942	Pickford, C. J.	2455
Ostrem, J. S.	2192	Pikhtelev, A. I.	1891,2224
Ostrovskaya, G. V.	2417	Pinnekamp, F.	2203
Padrick, T. D.	2507	Platisa, M.	2101,2198, 2509
Palmer, R. E.	2507	Pobedonostseva, N. A.	2417
Panagia, N.	2254	Poizner, B. N.	2074
Panina, L. E.	2230	Polignac, C. de	2242
Pankratov, V. G.	2145,2243, 2408	Popov, L. N.	2074
Pasmanter, R. A.	2255	Popov, Yu. N.	2393
Paul, H.	2418	Popova, T. N.	1996
Payne, M. G.	2419	Popovic, M.	2101,2198, 2509
Peach, G.	2508	Poquerusse, A.	2423
Peacock, N. J.	2256	Preobrazhenskii, N. G.	2264
Peek, J. M.	2286	Prilezhaeva, N. A.	1838
Penicaud, M.	2420	Pritchard, D. E.	2360
Penkin, N. P.	1369,2257, 2258,2259, 2260,2421		

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Prokopenko, N. V.	2265	Ray, S.	2272
Prosnitz, D.	2424	Rayborn, G. H.	2429
Provorov, A. S.	2239	Razmadze, N. A.	1878,1890, 2273
Prud'Homme, M.	2364	Read, F. H.	2167
Pryadkin, K. K.	2023	Regemorter, H. Van	2108,2109
Ptak, R. L.	2266	Rensbergen, W. Van	2348,2511
Pujol, G.	2267	Reymann, D.	2155,2452
Puric, J.	2268,2395, 2425	Rodgers, C. D.	2430
Putlitz, G. zu	2134,2135, 2176,2352, 2446	Rodgers, J. E.	2274
Queffelec, J.-L.	2426	Roney, P. L.	2512,2513, 2514
Quercy, P.	2267	Rostas, F.	2173,2498
Rabitz, H.	2427	Roszman, L. J.	2275,2285, 2361,2431, 2515
Raether, M.	2269	Roueff, E.	2173,2432, 2433,2498, 2516
Ragimov, F. Ya.	2233	Roussel, K. M.	2517
Ramette, J.	2354	Royer, A.	2276,2434
Rang, L.-Q.	2270,2510	Rozhkov, V. V.	1879
Ranieri, M.	2254	Rozuvanova, V. A.	1840
Ranson, P.	2428	Rudnevskii, N. K.	1891,2224
Rao, B. K.	2271	Rumbold, D. G.	2223
Raso, G.	2150	Ruzov, V. P.	2257,2258, 2259
Rautian, S. G.	2263,2386, 2387,2393		

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Rybakov, B. V.	2277,2435	Seucan, A.	2095
Sabelli, N. H.	2518	Shabanova, L. N.	1369,2257, 2258,2259, 2260,2421, 2441
Sachs, E. S.	2518		
Safonov, V. P.	2393	Shalagin, A. M.	2386,2387
Sahal, S. (also Sahal-Brechot, S. or Brechot, S.)	2325,2326, 2350,2436	Shevel'ko, A. P.	2403
Saloman, E. B.	2376	Sholin, G. V.	1878,1900, 2281,2282, 2283,2347
Sanchez, A.	2278,2483	Shreider, E. Ya.	2366
Sando, K.	2171,2279, 2437	Shumaker, J. B., Jr.	2442
Saprykin, E. G.	2386,2387	Shumyatskii, B. Ya.	2451
Sarjeant, W. J.	2223	Sichart, F. v.	2134,2135
Sassi, M.	2349,2519	Sidell, N.	2380
Sato, T.	2280	Sieradzan, A.	2237
Saulit, V. R.	2250,2414	Simard, J.-F.	2450
Sayer, B.	2110	Simonova, N. V.	1890
Schabert, A.	2213	Simpson, J. P.	2284
Scharmann, A.	2369	Skidan, V. V.	2366
Schleusener, J.	2134,2135	Skulachenko, S. S.	2277
Schneider, W. B.	2180	Slemzin, V. A.	2240,2403
Schrijver, H.	1889	Smirnov, G. I.	2336
Schuller, F. C.	2438	Smith, E. W.	2285,2294, 2328,2340, 2407,2456, 2457,2484, 2504
Schuller, F.	2337,2439, 2500		
Segre, E. R. A.	2440		

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Smolkin, G. E.	1900	Suzor, A.	2433
Smyly, D. S.	1898	Svanberg, S.	2377
Sobel'man, I. I.	2111,2302, 2453	Sventitskaya, I. N.	2289
Sokolov, A. P.	2138,2139	Svoboda, V.	1898
Solyanikova, V. A.	1775,2219	Szabo, L.	2147
Spatschek, K.-H.	2443	Szudy, J.	2331,2332
Srivastava, R. P.	2520	Talmage, J. E.	2419
Stacey, D. N.	2169,2400, 2444	Tambovtsev, B. Z.	2264
Stacey, V.	2444	Tang, H.	2200,2290
Stallcop, J. R.	2152	Tang, K. T.	2458
Stamm, R.	2521	Taylor, K.	2447
Stanzel, G.	2445	Tandler, M.	2147
Steele, D.	2383	Testor, G.	2173
Stelmasik, M.	1370	Tetu, M.	2156
Stevenson, D. C.	2485	Tetyukhin, Yu. A.	2304
Stewart, J. C.	2286	Tondello, G.	2503
Stoner, J. O., Jr.	2287	Toschek, P.	2213
Stoner, R. E.	2266	Townsend, W. P.	1898
Strandberg, M. W. P.	2288	Trahin, M.	2194
Stuke, M.	2446	Triche, C.	2422
Suckewer, S.	1888,2398	Troccoli, O. E.	2140,2217, 2218
Sulzmann, K. G. P.	2262,2365	Tsoi, V. I.	1899,2448

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Tsuji, A.	2449	Wagenaar, H. C.	2297,2454, 2455
Tvorogov, S. D.	2184	Wagner, E. B.	2419
Uman, M. A.	942	Ward, J.	2456,2457
Vadla, C.	2247	Weber, E. W.	2134,2135, 2446
Valognes, J.-C.	1895,2291, 2292,2330	Wei, P. S. P.	2458
Vanier, J.	1375,2156, 2450	Weniger, S.	2267
Van Kranendonk, J.	2293	Wertheim, G. K.	2459
Varfolomeev, V. I.	2142	West, K. W.	2459
Vasileva, I. A.	2112,2451	Whalen, J. E.	2460
Velichko, A. G.	1899,2448	Wiese, W. L.	2214,2361
Venkataraman, R.	1243,1244	Wilhelm, H. E.	2216
Vetter, J.	2134,2135, 2446	Williams, A. P.	2430
Vetter, R.	2155,2334, 2452	Williams, L. G.	2461
Vetter, S.	2218	Winefordner, J. D.	1898
Vidal, C. R.	2294,2340	Winkel, Th. G. A.	2280
Vinogradov, A. V.	2453	Winnik, S.	2134,2135
Volkov, Ya. F.	2295	Witschel, W.	2372
Volonte, S.	2188,2189	Wolnikowski, J.	2332
Vorobeichikov, E. S.	2074	Wormhoudt, J. C.	2279
Voslamber, D.	2296,2440, 2510,2521	Worrall, G.	2298
		Wujec, T.	1372
		Yablonovitch, E.	2299

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Yakushev, A. I.	2435	Zav'yalov, G. I.	1838
Yamada, M.	2269	Zav'yalova, A. Yu.	1838
Yengibarlian, N. B.	2301	Zeegers, P. J. Th.	1898
Yudin, I. I.	2277	Zel'dovich, B. Ya.	2302
Yukov, E. A.	2453	Zenitani, F.	2303
Yundev, D. N.	2451	Zhirnov, V. A.	2304
Zagorodnikov, S. P.	1900	Zon, B. A.	2462
Zaidi, H. R.	2520,2522	Zuev, V. S.	2113
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- 1839 In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in J. Appl. Spectrosc. (USSR) 14, 803 (1971), is also incorporated into this supplement.
- 1840 In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in J. Appl. Spectrosc. (USSR) 15, 1642 (1971), is also incorporated into this supplement.
- 1868 In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in Sov. Phys. J. 14, 568 (1971), is also incorporated into this supplement.
- 1878 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 14, 21 (1971), is also incorporated into this supplement.
- 1879 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 15, 1360 (1971), is also incorporated into this supplement.
- 1935 In Part 2, this reference should be listed under Hg I (Van der Waals, T) by the following perturbers: He, Ne, Ar, Kr, and Xe.
- 1940 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 16, 642 (1972), is also incorporated into this supplement.
- 1995 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 17, 1545 (1972), is also incorporated into this supplement.
- 1996 In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in Sov. Phys. J. 15, 667 (1972), is also incorporated into this supplement. In Supplement 1, the name of the principal author is misspelled; the correct spelling is I. I. Klykov, and this change is incorporated into Parts 3 and 4 of this supplement.

**The numbers refer to paper identification numbers of Part 3 of Supplement 1.

Ref. No.** Corrections or Additions to NBS Special Publication 366,
Supplement 1 (Jan. 1974)

- 1999 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 16, 17 (1972), is also incorporated into this supplement.
- 2011 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in Sov. Phys. J. 15, 416 (1972), is also incorporated into this supplement.
- 2023 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in J. Appl. Spectrosc. (USSR) 16, 401 (1972), is also incorporated into this supplement.
- 2024 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in Sov. Phys. J. 15, 451 (1972), is also incorporated into this supplement.
- 2038 In Part 3, add the reference Astron. Astrophys. 30, 482 (1974). This erratum is incorporated into this supplement.
- 2074 In Part 3, an English translation to the previously cited Russian work is provided; this publication, found in Sov. Phys. J. 15, 610 (1972), is also incorporated into this supplement.

**The numbers refer to paper identification numbers of Part 3 of Supplement 1.

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4. TITLE AND SUBTITLE Bibliography on Atomic Line Shapes and Shifts (July 1973 through May 1975)			5. Publication Date November 1975	6. Performing Organization Code
			7. AUTHOR(S) J. R. Fuhr, G. A. Martin, and B. J. Specht	
9. PERFORMING ORGANIZATION NAME AND ADDRESS NATIONAL BUREAU OF STANDARDS DEPARTMENT OF COMMERCE WASHINGTON, D.C. 20234			10. Project/Task/Work Unit No. 2320171	11. Contract/Grant No.
			12. Sponsoring Organization Name and Complete Address (Street, City, State, ZIP) same as #9	
15. SUPPLEMENTARY NOTES Library of Congress Catalog Card Number: 72-600147				
16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) This is the second supplement to the NBS Special Publication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 400 references and covers the literature from July 1973 through May 1975. As before, the bibliography contains five major parts: (1) All general interest papers are catalogued according to the broadening mechanisms (and, further, according to special topics under several of the mechanisms) and as to whether the work is a general theory, a general review, a table of profiles or parameters, a comment on existing work, a study of general experimental measurement techniques, or an experimental effort of general importance. Also included are selected papers on important applications of line broadening and on miscellaneous topics relating to atomic spectral line shapes and shifts. (2) In Part 2, all papers containing numerical data are ordered as to element, ionizatic stage, and broadening mechanism (in the case of foreign gas broadening the perturbing species are listed), and it is indicated whether the data are experimentally or theoretically derived. (3) While in the two preceding parts of the bibliography the references are listed for brevity by identification numbers only, in Part 3 all references are listed completely by journal, authors, and title and are generally arranged chronologically and alphabetically within each year according to the principal author. (4) This section contains a list of all authors and their papers. (5) A final section provides corrections or additions to the first bibliography and supplement.				
17. KEY WORDS (six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons) Atomic; instrumental broadening; line shapes; line shifts; pressure broadening; resonance broadening; Stark broadening; Van der Waals broadening.				
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