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)

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Office of Standard Reference Data — Office of Information Activities — Office of Technical Publications — Library — Office of International Relations — Office of International Standards.

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[1] Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.

[2] Located at Boulder, Colorado 80302.

Bibliography on

Atomic Line Shapes and Shifts

(July 1973 through May 1975)

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

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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

Contents

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)

Description	Reference No.*
Ag (Silver)	
Ag I	
Van der Waals, E	2455 by Air-C_2H_2
	1898 by H_2-O_2-Ar
Al (Aluminum)	
Al I	
Stark, E	2458
Van der Waals, E	2454 by C_2H_2-N_2O
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O
Al II	
Stark, E	2202
Stark, T,E	2483
Ar (Argon)	
Ar I	
Resonance, E	2193,2341
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
Ar II	
Stark, E	2148,2221,2230, 2395
Stark, T	2211
Ar III	
Stark, E	2509
Ar IV	
Stark, E	2509
Ba (Barium)	
Ba I	
Van der Waals, E	1369,2162 by Ar
	1369,2162 by He
	1369 by Kr
	1369 by Ne
Van der Waals, T	2441 by Ar
	2441 by He
	2441 by Kr
	2441 by Ne
	2441 by Xe
Ba II	
Stark, E	2198
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

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

Description	Reference No.*
Van der Waals, T	2272 by Ar
	2384 by H
	2272 by He

Be (Beryllium)

Be II

Stark, E	2198
Stark, T	2211
Stark, T,E	2278

Be IV

Stark, E	2503

C (Carbon)

C I

Stark, E	2247
Stark, T	2348
Stark, T,E	2100
Van der Waals, T	2348 by H-He

C II

Stark, E	2233
Stark, T	2211
Stark-Natural, T	2038

C III

Stark, E	2233

C IV

Stark-Natural, T	2038

C V

Stark, T	2423
Stark, T,E	2208

C VI

Stark, T	2423
Stark, T,E	2208

Ca (Calcium)

Ca I

Resonance, E	2406
Stark, E	2206
Van der Waals, E	2217,2218,2455 by Air-C_2H_2
	1369,2162,2206 by Ar
	2406 by Ca
	2454 by C_2H_2-N_2O
	1369,2162 by He
	2140 by H_2-Ar
	2140 by H_2-N_2
	1369 by Kr
	1369 by Ne
	2217,2218 by N_2O-C_2H_2
Van der Waals, T	2441 by Ar
	2441 by He
	2441 by Kr
	2441 by Ne
	2441 by Xe
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

Ca II

Stark, E	2101,2198,2206
Stark, T	2211,2449
Van der Waals, E	2163,2206 by Ar
	2163,2494 by He
Van der Waals, T	2372 by Ar
	2372 by He
	2372 by Kr
	2372 by Ne
	2372 by Xe
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

Cd (Cadmium)

Cd I

Resonance, E	2495
Van der Waals, E	2154 by Ne

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

Description	Reference No.*
Cl (Chlorine)	
Cl II	
Stark, T	2211
Cr (Chromium)	
Cr I	
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O
Cs (Cesium)	
Cs I	
Resonance, T,E	2411,2412
Stark, E	2110
Van der Waals, E	2161,2176,2352, 2409,2446 by Ar
	2409,2446 by He
	2446 by Kr
	2409,2446 by Ne
	2446 by Xe
Van der Waals, T	2144,2195,2272, 2332,2343,2437 by Ar
	2195,2272,2332, 2433 by He
	2195 by Hg
	2195 by Kr
	2195 by Ne
	2144,2195,2325, 2326 by Xe
Van der Waals, T,E	2411 by Cs
Resonance-Van der Waals, E	2416 by Ar
Resonance-Zeeman, E	2200

Description	Reference No.*
Cu (Copper)	
Cu I	
Doppler, E	1896
Instrumental, E	1896
Line, E	1896
Resonance, T	1019
Stark, E	1896
Stark, T	2331
Stark, T,E	1019
Van der Waals, E	2455 by Air-C_2H_2
	2422 by Ar
	2422 by N_2
Van der Waals, T	1019 by H
	1019 by O
D (Deuterium)	
D I	
Stark, E	2382
Stark, E,C	2214
Van der Waals, E	2245 by Ar
Eu (Europium)	
Eu I	
Resonance, E	2260
Van der Waals, T,E	2421 by Ar
	2421 by He
	2421 by Kr
	2421 by Ne
	2421 by Xe
F (Fluorine)	
F II	
Stark, E	2233

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

Description	Reference No.*
Fe (Iron)	
Fe I	
Van der Waals, E	2365 by Ar
	2170 by He
Van der Waals, T	2491 by H
Fe XXIV	
Stark, T	2453
Fe XXV	
Stark, T	2453
Ga (Gallium)	
Ga I	
Van der Waals, E	2257 by Ar
	2454 by C_2H_2-N_2O
	2257 by He
	2257 by Kr
	2257 by Ne
	2257 by Xe
Van der Waals, T,E	2258 by Ar
	2258 by He
	2258 by Kr
	2258 by Ne
	2258 by Xe
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O
Ge (Germanium)	
Ge I	
Stark, E	2389
Ge II	
Stark, T,E	2389
H (Hydrogen)	
H I	
Resonance, T	2279
Stark, C	2296
Stark, E	2094,2142,2186, 2228,2229,2233, 2304,2357,2358, 2382,2408,2426, 2428,2492
Stark, T	2187,2216,2231, 2282,2283,2286, 2340,2347,2351, 2420,2460,2510, 2515,2521
Stark, E,C	2214
Stark, T,E	2203
Van der Waals, E	2245 by Ar
Van der Waals, T	2157 by Ar
	2157 by He
	2157 by Kr
	2157 by Ne
Van der Waals, T,E	2496 by Ar
	2496 by He
	2496 by Ne
Stark-Doppler, E	2428
Stark-Doppler-Instrumental, E	1893
Stark-Zeeman, E	2094
Stark-Zeeman, T	2248
He (Helium)	
He I	
Resonance, E	2158,2400
Stark, E	1878,2240,2335, 2350,2354,2379, 2382,2403,2424, 2485,2492
Stark, T	2177,2232,2328, 2349,2397,2407, 2440,2484,2504, 2519
Stark, T,E	2238,2246,2370
Van der Waals, T	2179 by He

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

Description	Reference No.*
He II	
Doppler, T,E	2280
Stark, E	1878,2188,2189, 2367,2368,2492
Stark, T	2415

Hg (Mercury)

Description	Reference No.*
Hg I	
Doppler, E	1691
Resonance, E	2445
Stark, E	2095
Van der Waals, E	2166,2236,2337, 2392,2445 by Ar
	2151,2445 by He
	2236,2244 by Hg
	2445 by H_2
	2337,2374,2375, 2392 by Kr
	2151,2337 by Ne
	2337,2392 by Xe
	1838 by hydrocarbons
Van der Waals, T	2195 by Ar
	2195 by He
	2195,2373 by Kr
	2195 by Ne

I (Iodine)

Description	Reference No.*
I I	
Van der Waals, E	2461,2507 by Ar
	2113 by Ar-C_3F_7I
	2507 by CO_2
	2461,2507 by He
	2461,2507 by Kr
	2461,2507 by Ne
	2507 by N_2
	2461,2507 by Xe

In (Indium)

Description	Reference No.*
In I	
Van der Waals, E	2257,2489 by Ar
	2454 by C_2H_2-N_2O
	2257,2489 by He
	2257 by Kr
	2257 by Ne
	2257 by Xe
Van der Waals, T	2195 by Ar
	2195 by Ne
Van der Waals, T,E	2258 by Ar
	2258 by He
	2258 by Kr
	2258 by Ne
	2258 by Xe
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

K (Potassium)

Description	Reference No.*
K I	
Resonance, E	2505
Stark, E	2164
Stark, T	1895
Stark, T,E	2291
Van der Waals, E	2138,2139,2360 by Ar
	2138,2139 by He
	2138,2139 by H_2
	2136,2393 by K
	2138,2139 by Kr
	2138,2139 by Ne
	2138,2139 by N_2
	2138,2139 by Xe

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

Description	Reference No.*
Van der Waals, T	2195 by Ar
	2195,2498 by He
	2195 by Kr
	2195 by Ne
	2195 by Xe
Van der Waals, T,E	2404 by Kr
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

Kr (Krypton)

Kr I

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)

Li I

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)

Mg I

Stark, E	2102
Van der Waals, E	2102 by Ar
	1898 by H_2-O_2-Ar

Mg II

Stark, E	2102,2198
Stark, T	2211
Van der Waals, E	2102 by Ar
Van der Waals, T	2372 by Ar
	2372 by He
	2372 by Kr
	2372 by Ne
	2372 by Xe

Mn (Manganese)

Mn I

Van der Waals, E	2267 by Ar
	2454 by C_2H_2-N_2O
	2267 by He
	2267 by H_2
	2267 by N_2
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

Mo (Molybdenum)

Mo I

Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

N (Nitrogen)

N I

Stark, E	2442
Stark, T,E	2150

N II

Stark, T	2211
Stark-Natural, T	2038

Na (Sodium)

Na I

Resonance, E	2505
Resonance, T	1888
Resonance, T,E	2112
Stark, E	2219

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

Description	Reference No.*
Van der Waals, E	2163,2180 by Ar
	2163,2180 by He
	2180 by Kr
	2180,2488 by Ne
	2180 by Xe
Van der Waals, T	2195,2511 by Ar
	2298,2432,2511,
	2516,2518 by H
	2097,2195,2348,
	2498,2511 by He
	2195 by Kr
	2195 by Ne
	2195 by Xe
Van der Waals, T,E	2173 by He

Ne (Neon)

Ne I

Pressure, E	1789
Resonance, E	2213,2239
Stark, E	2386,2387
Stark, T	1775
Van der Waals, E	2252 by He
	2225,2435 by He-Ne
	2252,2386 by Ne
Van der Waals, T	1775 by Ne

O (Oxygen)

O I

Stark, T	2348
Stark, T,E	1370
Van der Waals, E	2205 by Ar
	2205 by Kr
	2205 by Xe
Van der Waals, T	2348 by H-He

Pb (Lead)

Pb I

Resonance, T,E	2376

Description	Reference No.*

Rb (Rubidium)

Rb I

Resonance, E	2190,2224,2505
Resonance, T,E	2362
Van der Waals, E	1891,2103,2176,
	2237,2338,2450
	by Ar
	2450 by He
	2338 by Kr
	1891,2338,2450
	by Ne
	1891,2450 by N_2
	2224 by Rb
	1891,2338 by Xe
Van der Waals, T	2195,2372,2511
	by Ar
	2195,2372,2433,
	2511 by He
	2195,2372 by Kr
	2195,2372,2500
	by Ne
	2195,2372 by Xe
Resonance-Zeeman, E	2200

S (Sulfur)

S II

Stark, T	2211

Si (Silicon)

Si I

Stark, E	2268,2425
Stark, T	2348
Van der Waals, T	2348 by H-He

Si II

Stark, E	2268,2425
Stark, T	2211
Stark-Natural, T	2038

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

Description	Reference No.*
Si III	
Stark, E	2268,2425
Stark-Natural, T	2038
Si IV	
Stark-Natural, T	2038

Sr (Strontium)

Description	Reference No.*
Sr·I	
Van der Waals, E	1369,2162 by Ar
	2204 by CO-N_2O
	2204 by CO-O_2-Ar
	1369,2162 by He
	1369 by Kr
	1369 by Ne
Van der Waals, T	2441 by Ar
	2441 by He
	2441 by Kr
	2441 by Ne
	2441 by Xe
Sr II	
Stark, E	2198
Van der Waals, E	2163 by Ar
	2163 by He

T (Tritium)

Description	Reference No.*
T I	
Van der Waals, E	2245 by Ar

Ti (Titanium)

Description	Reference No.*
Ti I	
Doppler-Van der Waals, T,E	2297 by C_2H_2-N_2O

Tl (Thallium)

Description	Reference No.*
Tl I	
Resonance, E	2259
Van der Waals, E	2257 by Ar
	2257 by He
	2257 by Kr
	2257 by Ne
	2257 by Xe
Van der Waals, T	2195 by Ar
	2195 by He
	2195 by Kr
	2195 by Ne
	2195 by Xe
Van der Waals, T,E	2258 by Ar
	2258 by He
	2258 by Kr
	2258 by Ne
	2258 by Xe

Xe (Xenon)

Description	Reference No.*
Xe I	
Stark, E	2023
Van der Waals, E	2366 by Ar
	2366 by He
	2155 by Kr
Van der Waals, T	2195 by Ar
	2195 by He
	2195 by Kr
	2195 by Ne
	2195 by Xe
Van der Waals, T,E	2452 by Ar
	2452 by He
	2452 by Kr
	2452 by Ne
	2452 by Xe

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4. LIST OF AUTHORS

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

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5. ERRATA

Ref. No.*	Corrections or Additions to NBS Special Publication 366 (Sept. 1972)
569	In Part 1, this reference should be listed under 1.1.2.1.--Experimental papers.
861	In Part 3, this reference appears in the original Russian version. This publication was translated into English in 1972. It is assigned a new number in this supplement--2111.
1466	In Part 2, this reference should not appear under Kr I--Resonance, T, E, C.
1488	In Part 3, this reference should appear under 1968, not 1969. It is assigned a new number in this supplement--1369.
1557	In Part 1, this reference should be listed under 1.1.1.4. Shifts of hydrogen lines--Theoretical papers.
1670	In Part 1, this reference should be listed under 1.1.1.4. Plasma polarization shift--Comments.
1693	In Part 1, this reference should be listed under 1.2.3.--Theoretical papers, instead of 1.5.1.--Theoretical papers.
1775	In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in J. Appl. Spectrosc. (USSR) 14, 676 (1971), is also incorporated into this supplement.
1789	In Part 3, an English translation to the previously cited Russian work is provided. This translation, found in J. Appl. Spectrosc. (USSR) 14, 51 (1971), is also incorporated into this supplement. In addition, in Part 1, the entry should be listed under 1.4.1.--Experimental papers.
1838	In Part 3, an English translation to the previously cited Russian work is provided; this translation, found in Sov. Phys. J. 14, 1137 (1971), is also incorporated into this supplement.

*The numbers refer to paper identification numbers of Part 3 of the first bibliography.

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

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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 stud of general experimental measurement techniques, or an experimental effort of general importance. Also included are selected papers on important applications of line broad ening 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 theoreti ally 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 liste 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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