NBS SPECIAL PUBLICATION 366

SUPPLEMENT 1

Bibliography on Atomic Line Shapes and Shifts

(April 1972 through June 1973)

U.S.
ARTMENT
OF
OMMERCE
National
Bureau
of
Standards

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

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[1] Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.
[2] Part of the Center for Radiation Research.
[3] Located at Boulder, Colorado 80302.
[4] Part of the Center for Building Technology.

Bibliography on Atomic Line Shapes and Shifts (April 1972 through June 1973)

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NATIONAL BUREAU OF STANDARDS, Richard W. Roberts, *Director*

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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 (April 1972 through June 1973)

J. R. Fuhr, L. J. Roszman, and W. L. Wiese

This is the first supplement to the NBS Special Puhlication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 350 references and covers the literature from April 1972 through June 1973. The bihliography 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, 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 hrevity by identification numbers only, in Part 3 all references are listed completely by journal, authors, and title and are 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 our first bibliography.

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

A. INTRODUCTION

Since the publication of our first "Bibliography on Atomic Line Shapes and Shifts" [1] in September 1972, about 350 new articles have appeared. This first supplement contains references to all new papers received in the NBS library before July 1973. In addition, we have added some older papers overlooked in the compilation of the previous bibliography, have translated some previously untranslated Russian language papers, and now have English language translations of previously cited Russian language journals.

The arrangement of the preceding bibliography is generally retained. Thus, recently discovered articles published prior to 1972 are listed in Section 3 under the year of publication with a number immediately following the last number cited for that year in our first bibliography. 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. Second, since we feel that our collection of articles for the year 1972 is now reasonably complete, all references for that year have been renumbered for this supplement and are listed here with the new numbers. Third, a fifth section consisting of errata to the first bibliography has been added to this supplement. The errata consist of corrections and additions to the first bibliography, as well as references to English translations of previously cited articles in foreign language journals.

We gratefully acknowledge the capable assistance of Mrs. Georgia Martin in developing computer based cataloging and sorting programs and in assisting with the arrangement of this supplement. Also, it is a pleasure to acknowledge the competent assistance of Ms. Evelyn White-Frazer and Mrs. Beverly Specht in arranging and typing this supplemental bibliography.

[1] 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. 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: 2161

1.1 PRESSURE BROADENING

Theoretical papers: 1124, 1358, 1676, 1848, 1849, 1883, 1907, 1917, 1938, 2001, 2076, 2158

Combined theoretical-comments: 1967

1.1.1. Stark broadening and shifts

Comments: 2058

Theoretical papers: 1366, 1519, 1678, 1846, 1852, 1863, 1913, 1937, 1957, 2003, 2062, 2070, 2077, 2146, 2156

Combined theoretical-comments: 2002

Combined theoretical-experimental: 1984

1.1.1.1. Hydrogen and hydrogen-like (overlapping) lines

Comments: 1968, 2036

Theoretical papers: 1530, 1866, 1879, 1910, 1936, 1990, 1991, 2008, 2010, 2039, 2041, 2057,

Theoretical papers: 2115, 2127, 2138, 2160, 2165

1.1.1.2. Isolated lines of neutral spectra

Experimental papers: 2005

Theoretical papers: 1854, 1952, 2040, 2123

1.1.1.3. Isolated lines of ionic spectra

Comments: 1681

1.1.1.4. Topics of particular interest

A. Line wings

Comments: 1969

Theoretical papers: 2070

B. Effects of collective electric fields

Comments: 1914

Experimental papers: 1934, 1949, 2073, 2129, 2130

Combined theoretical-experimental: 1976

C. Asymmetries of H-lines

Experimental papers: 1916, 2079

Theoretical papers: 1911, 2030

D. Microfield distributions

Theoretical papers: 548, 1530, 1881, 2127, 2157

E. Magnetic fields

Theoretical papers: 1950, 2003, 2029

Combined theoretical-experimental: 1976

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

Comments: 867, 1859, 2013

Theoretical papers: 1529, 1542, 1920, 1935, 1947,

Theoretical papers: 1964, 1975, 2006, 2015, 2047, 2048, 2052, 2091, 2117, 2121, 2126

Combined theoretical-comments: 1363

1.1.2.1. Satellite bands

Experimental papers: 1121, 1235, 1240, 1532, 1533, 1544, 1673, 1675

Theoretical papers: 1989, 2015, 2113, 2132, 2159

Combined experimental-comments: 2027

1.1.3. Resonance broadening

Theoretical papers: 1858, 2019, 2089, 2090, 2153

1.2. BASIC ARTICLES ON DOPPLER AND NATURAL LINE SHAPES

1.2.1. Doppler broadening

Theoretical papers: 1529, 1539, 1540, 1908, 1920, 1923, 1975, 2000, 2089, 2091

1.2.2. Natural line broadening

Experimental papers: 1367

Theoretical papers: 2004

1.2.3. Radiation induced broadening

Comments: 2082

Experimental papers: 1365, 1688, 1862, 1873, 1955, 1995

Theoretical papers: 1231, 1529, 1540, 1874, 2011, 2033, 2043, 2088, 2131

Combined theoretical-experimental: 1683, 1942, 2162

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: 1941

Theoretical papers: 1360, 1839, 1840, 1868, 1872, 1940, 1996, 1999, 2021, 2024, 2028, 2072, 2147

Combined theoretical-experimental: 508, 2037

1.3.2. Deconvolution

Theoretical papers: 1360, 1539, 1844, 1868, 1877, 1944, 1981, 1996, 2024, 2067, 2072, 2147

Combined theoretical-experimental: 2037

1.3.3. Superposition of broadening mechanisms

Comments: 1921

Experimental papers: 1941

Theoretical papers: 623, 1529, 1540, 1908, 1918, 1920, 1972, 1975, 2000, 2064, 2089, 2091, 2133

Combined theoretical-comments: 1119

Combined theoretical-experimental: 2012

1.4. IMPORTANT LINE BROADENING APPLICATIONS

1.4.1. Laser applications

Experimental papers: 1864, 1870, 1873, 1955, 1993, 1995, 2022, 2065, 2116

Theoretical papers: 1540, 1542, 1874, 1923, 1961, 2018, 2142

Combined theoretical-experimental: 2066

1.4.2. Astrophysical applications

Comments: 1956

Experimental papers: 1545, 1677, 1855,

Theoretical papers: 1228, 1234, 1687, 1884, 1973, 2032, 2125, 2133, 2152, 2154

Combined theoretical-comments: 1979

1.4.3. Plasma diagnostics

Comments: 1361, 1536, 1924, 2164,

Experimental papers: 582, 1230, 1679, 1680, 1686, 1871, 1878, 1886, 1925, 1933, 1934, 2141

Theoretical papers: 1234, 1242, 1376, 1535, 1842, 1926, 2053

Combined theoretical-experimental: 866, 1229, 1845, 2086, 2114

1.4.4. Other applications

Comments: 460, 867

Experimental papers: 1365, 1688, 1919

Theoretical papers: 357, 459, 1125, 1231, 1364, 1543, 1945, 1970, 2000, 2063

Combined theoretical-experimental: 1683, 2162

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: 1547

Theoretical papers: 1122, 1123, 1234, 1239, 1242,

Theoretical papers: 1362, 1376, 1850, 1884 (cont.)

Combined theoretical-comments: 1119

Combined theoretical-experimental: 1843, 1927

1.5.2. Broadening of scattered radiation

Comments: 2074

Experimental papers: 1933

Theoretical papers: 1966, 2088

1.5.3. Some important papers on molecular line broadening

Comments: 460, 1915

Theoretical papers: 459, 1849, 2034, 2085, 2126, 2153

Combined theoretical-experimental: 2020

1.5.4. Miscellaneous topics

A. Light Shifts

Comments: 1971

Theoretical papers: 1531

B. Concealed alignment- effects of magnetic fields

Theoretical papers: 1850

C. Distortions of recorded spectral lines by noise filters

Theoretical papers: 434, 487, 737, 2042

Combined theoretical-experimental: 1241

D. Hyperfine splitting and shift

Experimental papers: 509

1.6. REVIEW ARTICLES

1.6.1. General line broadening reviews

1119, 1125, 1860

1.6.2. Reviews on pressure broadening

1930, 1977, 2025

1.6.2.1. Reviews on Stark broadening

2045, 2078

1.6.2.2. Reviews on foreign gas broadening

1537, 1977

1.6.2.3. Reviews on resonance broadening

1541

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

1863, 2056, 2163

1.7.3. Doppler and natural line broadening tables

No papers in this category.

1.7.4. Tables of Voigt functions

623

1.7.5. Line broadening bibliographies

1962

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	
Stark, T	2040
Stark, T,E	508
Van der Waals, E	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1236 by H_2-O_2
Al (Aluminum)	
Al I	
Stark, E	1958
Al II	
Stark, E	1958,2134
Ar (Argon)	
Ar I	
Resonance, E	486
Stark, E	1684,1864,2023,2068, 2069
Ar II	
Natural, E	1864,2065
Stark, E	1684,2141
Stark, T	1877,2137
Stark, T,E	1869
Ba (Barium)	
Ba I	
Doppler, T	1948
Stark, T	1535,1948
Van der Waals, E	2026,2119 by Ar
	2119 by He
	2026 by Ne
Ba II	
Doppler, T	1948
Stark, E	2046
Stark, T	1948
Van der Waals, E	2120 by Ar
	2120 by He
Be (Beryllium)	
Be II	
Stark, E	2046
Stark, T	2137

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

Description	Reference No.*

Bi (Bismuth)

Bi I

Resonance, E,C	1882

C (Carbon)

C II

Stark, T	2137
Stark-Natural, T	2038

C III

Stark, E	1922

C IV

Stark, E	1922
Stark-Natural, T	2038

Ca (Calcium)

Ca I

Stark, T,C	1979
Van der Waals, E	2139,2140 by Air-C_2H_2
	2059,2119 by Ar
	1236 by C_2H_2-O_2
	2059,2119 by He
	1236,2111 by H_2-Ar
	2111 by H_2-N_2
	2059 by Kr
	2059 by Ne
	2139,2140 by N_2O-C_2H_2
	2059 by Xe
Van der Waals, T,C	1979 by H

Ca II

Stark, E	582,2046
Stark, T	2087,2137
Stark, T,C	1979
Stark, T,E	1984,1985, 2049
Van der Waals, E	2120 by Ar
	2120 by He
Van der Waals, T,C	1979 by H

Cd (Cadmium)

Cd I

Stark, E	582
Stark, T	1535
Van der Waals, E	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1880 by Hg
	677 by H_2
	1236 by H_2-O_2
	1555 by O_2-Propane
	1555 by Air-Propane
Van der Waals, T,E	1685 by Ar
	1685 by D_2
	1685 by He
	1685 by H_2
	1685 by Kr
	1685 by Ne
	1685 by Xe

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

Description	Reference No.*

Cl (Chlorine)

Cl I	
Stark, E	1682
Cl II	
Stark, E	1865
Stark, T	2137

Cs (Cesium)

Cs I	
Stark, E	1960
Stark, T	1535,2053,2054
Stark, T,E	1118,2081
Van der Waals, C	1983 by Ar 1983 by He
Van der Waals, E	1117,1120,1673, 1959,2118 by Ar 1120,1673 by He 1532 by Hg 1120,1673 by Kr 1120,1673,1959 by Ne 1120,1121,1673 by Xe 209 by Hydrocarbons
Van der Waals, E,C	2027 by Cs
Van der Waals, T	1364,1543,1909,2047, 2113,2132 by Ar 2051 by H 1364,1543,2132 by He 2132 by Hg 1364,1543,1989, 2132 by Kr 1364,1543, 2132 by Ne
Van der Waals, T (cont.)	1364,1543,1989, 2113,2132 by Xe
Van der Waals, T,C	1363 by Xe
Van der Waals, T,E	1974,2012 by Ar 1974 by He 1974 by Kr 1974 by Ne 1974 by Xe 2012 by Acetylene-air
Stark-Zeeman, T	2053
Van der Waals-Doppler, T	1920 by He 1920 by Ne 1920 by Ar 1920 by Kr

Cu (Copper)

Cu I	
Resonance, E	2071
Stark, E	1238,1546,1547
Stark, T	2040
Stark, T,E	508
Van der Waals, E	1546 by Air 1236 by Ar-H_2 1236 by C_2H_2-O_2 1236 by H_2-O_2

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

Description	Reference No.*

D (Deuterium)

D I

Van der Waals, E	2080,2151 by Ar
	2080 by Ne

F (Fluorine)

F I

Stark, E	1992

Fe (Iron)

Fe I

Stark, E	582
Van der Waals, E	1534 by Ar
	2122 by He

H (Hydrogen)

H I

Resonance, E	1946
Resonance, T	2159
Stark, C	2164
Stark, E	1885,1886,1916,1931, 1963,2061,2079,2112, 2128,2143,2144
Stark, T	1519,1687,1910,1911, 1936,1943,1990,2009, 2030,2035, 2077,2127, 2138,2145,2160
Stark, T,C	1928
Stark, T,E	2135
Van der Waals, E	2151 by Ar
Van der Waals, T	2117 by Ar
	2117 by He
	2117 by Kr
	2117 by Ne

He (Helium)

He I

Stark, E	1878,1886,1949
Stark, T	1853,1952,1953, 1957,2146
Stark, T,C	2002
Stark, T,E	1701,1851,2083, 2149
Van der Waals, E	1870 by He
	1912 by Ne
Van der Waals, T	1856,2124 by He
Stark-Doppler, T	2056
Stark- Zeeman, T,E	1976

He II

Stark, C	1932
Stark, E	1841,1878,2073, 2129
Stark, T	1988

Hg (Mercury)

Hg I

Resonance, T	1954
Resonance, T,E	2037
Stark, E	1679
Van der Waals, E	547,1533 by Ar
	1357 by Cd
	1533 by C-C_4F_8

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

Description	Reference No.*
Van der Waals, E (cont.)	1359 by D_2
	1359 by H-D
	547,1533,2060 by He
	1359,1533,2060 by H_2
	547 by Kr
	1357 by Mg
	547,1533 by Ne
	1533 by N_2
	1359 by T_2
	547 by Xe
	1357 by Zn
Van der Waals, T	2132 by Ar
	2132 by He
	2132 by Kr
	2132 by Ne

In (Indium)

In I

Van der Waals, E	1929 by Air-C_2H_2
	1929 by Ar-O_2-H_2
	1929 by N_2O-C_2H_2
Van der Waals, T	2132 by Ar
	2132 by Ne

K (Potassium)

K I

Resonance, E	2055
Van der Waals, E	2017 by Ar
	1236 by Ar-H_2
	2055 by Cs
	1236 by C_2H_2-O_2
	1951 by He

Description	Reference No.*
Van der Waals, E (cont.)	1236 by H_2-O_2
	2017 by Kr
Van der Waals, T	1364,1543,2132 by Ar
	2051 by H
	1364,1543,2132 by He
	1364,1543,1980, 1989,2132 by Kr
	1364,1543,2132 by Ne
	1364,1543,1989, 2132 by Xe
Van der Waals, T,E	2012 by Acetylene-air

Kr (Krypton)

Kr I

Resonance, E	2136
Van der Waals, E	1544 by Ar
	1544 by D_2
	1544 by He
	1544 by H_2
	1544 by Ne
	1544 by Xe
Van der Waals, T	2132 by Ar
	1857,2048,2132 by He
	2132 by Kr
	1857,2132 by Ne
	2132 by Xe

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

Description	Reference No.*

Li (Lithium)

Li I

Stark, E	1230,1288,1919,2150
Stark, T	1957,2053
Stark, T,E	508,866
Van der Waals, E	2120 by Ar
	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	2120 by He
	1236 by H_2-O_2
Van der Waals, T	1364,1543 by Ar
	2051 by H
	1364,1543,2014 by He
	1364,1543,1989 by Kr
	1364,1543 by Ne
	1364,1543,1989 by Xe
Van der Waals, T,E	2012 by Acetylene-air

Mg (Magnesium)

Mg I

Stark, E	1958
Stark, T	1535
Van der Waals, E	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1236 by H_2-O_2

Mg II

Stark, E	1958,2046
Stark, T	2137
Stark, T,E	1984,1985,2049

Mn (Manganese)

Mn I

Stark, E	582
Van der Waals, E	1876,2155 by Ar
	1876,2155 by He
	2155 by H_2
	1876,2155 by N_2

N (Nitrogen)

N II

Stark, T	2137
Stark-Natural, T	2038

Na (Sodium)

Na I

Resonance, E	1871
Stark, T,E	508
Van der Waals, E	1871,2120 by Ar
	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1871,2120 by He
	1871 by Hg
	1236 by H_2-O_2
	1871 by Xe
	1871 by Xe-Hg
Van der Waals, T	1364,1543,2132 by Ar
	1867,2007,2051 by H
	1364,1543,1987, 2006,2007,2050, 2132 by He

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

Description	Reference No.*
Van der Waals, T (cont.)	1364,1543,1989,2132 by Kr
	1364,1543,2132 by Ne
	1364,1543,1989,2132 by Xe
Van der Waals, T,E	1537 by He
	508 by Na
	2012 by Acetylene-air

Ne (Neon)

Ne I

Van der Waals, E	1847,2022,2084 by He
	1993,1994 by He-Ne
	1847,2022 by Ne
Van der Waals, T,E	1843,1927 by He

Ni (Nickel)

Ni I

Stark, T,E	508
Van der Waals, E	1236 by Ar-H_2
	1236 by C_2H_2-O_2

Pb (Lead)

Pb I

Resonance, E,C	1882
Van der Waals, E	1965 by Ar
	1965 by He
	1965 by H_2
	1965 by Kr
	1965 by Ne
	1965 by N_2

Description	Reference No.*
Van der Waals, E (cont.)	1965 by Xe
Van der Waals, T,E	2016 by Kr

Rb (Rubidium)

Rb I

Resonance, E	1998
Van der Waals, E	1861,2148 by Ar
	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1861 by He
	1236 by H_2-O_2
	1861 by Kr
	1861 by Ne
	1861 by N_2
Van der Waals, T	1364,1543,2047, 2132 by Ar
	1364,1543,2132 by He
	1364,1543,1989, 2132 by Kr
	1364,1543,2132 by Ne
	1364,1543,1989, 2132 by Xe
Van der Waals, T,E	1997 by Ar
	1997 by Ne
	2012 by Acetylene-air

S (Sulfur)

S II

Stark, T	2137

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

Description	Reference No.*

Si (Silicon)

	Si I
Stark, T	2087
Van der Waals, E	1959 by Ar
	Si II
Stark, E	1939
Stark, T	2087,2137
Stark-Natural, T	2038
	Si III
Stark, T	2087
Stark-Natural, T	2038
	Si IV
Stark-Natural, T	2038

Sn (Tin)

	Sn I
Van der Waals, E,C	1882 by Pb

Sr (Strontium)

	Sr I
Doppler, T	1948
Stark, T	1948
Van der Waals, E	1978,2119 by Ar
	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	2119 by He
	1978 by H_2
	1978 by N_2
	1978 by O_2
	Sr II
Stark, E	2046
Van der Waals, E	2120 by Ar
	2120 by He

T (Tritium)

	T I
Van der Waals, E	2151 by Ar

Tl (Thallium)

	Tl I
Resonance, E	1982
Resonance, T	2031
Stark, T,E	508
Van der Waals, E	1982,2026 by Ar
	1982 by He
Van der Waals, T	2031,2132 by Ar
	2031,2132 by He
	2132 by Kr
	2132 by Ne
	2031 by Tl-He
	2132 by Xe

Xe (Xenon)

	Xe I
Stark, E	1686,2005,2023
Van der Waals, E	1235,1240,1544,
	1675 by Ar
	1544 by D_2
	1235,1240,1544,
	1675 by He
	1235,1240,1544,
	1675 by H_2

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

Description	Reference No.*
Van der Waals, E (cont.)	1544,1675,2116 by Kr
	1235,1544,1675 by Ne
	1240,1544,1675 by N_2
	1675 by Xe
Van der Waals, T	2132 by Ar
	2132 by He
	2132 by Kr
	2132 by Ne
	2132 by Xe

Description	Reference No.*

Zn (Zinc)

Zn I

Stark, T	1535
Van der Waals, E	1236 by Ar-H_2
	1236 by C_2H_2-O_2
	1232,1538 by C_2H_2-O_2-N_2
	1236 by H_2-O_2

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5. ERRATA TO THE FIRST BIBLIOGRAPHY

Ref. No.*	Corrections or Additions
85	In Part 2, the entry should be listed under Na I (Natural - E) and Na I (Resonance - E) instead of Na I (Natural - Resonance - E).
117	In Part 2, the entry should be listed under Cs I (Resonance - E) instead of S I (Resonance - E).
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350	In Part 1, the entry should be listed under 1.1 - Theoretical papers.
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1002	In Part 2, this reference should be added under Na I (Van der Waals - E) by Xe.
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1062	In Part 3, the year (1970) should be added to the last reference.
1146	In Part 4, this reference should be added under the authors J. P. Oss and W. G. Braun.
1151	In Part 3, the language (Fr.) should be added.

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1162	In Part 3, the language (Fr.) should be added.
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1266	In Part 3, the language (Fr.) should be added.
1276	In Part 4, the author U. Feldman should be added.
1288	In Part 3, an English translation to the previously cited German work is provided. This translation, found in Jena Rev. 16, 36 (1971), is also incorporated into this supplement.
1311	In Part 4, the author A. A. Minaeva should be added and this reference should not appear under L. A. Minaeva.
1352	In Part 3, the language (Ger.) should be added.
1357	In Part 3, an English translation to the previously cited Russian work is provided. This translation, found in Sov. Phys. J. 11, No. 3, 97 (1968), is also incorporated into this supplement.
1399	In Part 3, the language (Fr.) should be added.
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1480	In Part 4, this reference should appear under the author J. Payne instead of A. I. Troinikov.
1502	In Part 3, the language (Fr.) should be added.
1511	In Part 1, the reference should appear under 1.1.1. - Theoretical papers.
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1555	In Part 3, an English translation to the previously cited Russian work is provided. This translation, found in J. Appl. Spectrosc. (USSR) 12, 307 (1970), is also incorporated into this supplement.
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1662	In Part 4, this reference should be added under the authors A. Tsuji and H. Narumi and removed from the authors B. Kleman and E. Lindholm.
1701	In Part 3, the authors should appear as B. Ya'akobi, E. V. George, G. Bekefi, and R. J. Hawryluk. In Part 4, add this reference to the authors B. Ya'akobi and R. J. Hawryluk and remove from P. A. Politzer. These changes have been incorporated into this supplement.
1736	In Part 2, the entry should be listed under He I (Stark - T).
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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 first supplement to the NBS Special Publication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 350 references and covers the literature from April 1972 through June 1973. The bibliography contains five major parts: (1) All general interest papers are cataloged 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, 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 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 our first bibliography.

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