INTRODUCTION

The NBS Data Center on Atomic Transition Probabilities is nearing completion of a critical compilation of atomic transition probability data on allowed and forbidden transitions in the elements scandium through nickel in all stages of ionization. This compilation constitutes a revision of a series of smaller NBS compilations published in recent years in the Journal of Physical and Chemical Reference Data. Upon completion of this project, work on updating of an even earlier compilation covering the elements hydrogen through neon will be initiated.

The world literature on atomic transition probabilities is collected and catalogued on an ongoing basis by the Data Center. A master reference list is maintained, and annotated bibliographies are issued as the number of new articles in the literature and the resources of the Center permit. A computerized bibliographic database system is being developed to enhance the capability for handling bibliographical information in the NBS data centers on transition probabilities, line shapes and shifts, and energy levels. Development of a computerized database of critically evaluated numerical data on atomic spectroscopic quantities is planned for the future.

Exchange of information between the Center staff and both producers and users of transition-probability data is encouraged. User services include responding to requests for data and new references (those not yet included in a published bibliography), reception of visitors to the Center for use of the files, and consultation on technical matters. Receipt of research results from professionals in the field in advance of publication is welcomed.

LIST OF PUBLICATIONS

1. W. L. Wiese, M. W. Smith, and B. M. Glennon

2. W. L. Wiese, M. W. Smith, and B. M. Miles

3. B. M. Miles and W. L. Wiese
4. M. W. Smith and W. L. Wiese

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


7. M. W. Smith and W. L. Wiese

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

9. W. L. Wiese and J. R. Fuhr


11. N. Konjevic and W. L. Wiese

12. N. Konjevic and J. R. Roberts

13. G. A. Martin and W. L. Wiese

14. W. L. Wiese and S. M. Younger
15. G. A. Martin and W. L. Wiese
"Atomic Oscillator Strength Distributions in Spectral Series of the

"Bibliography on Atomic Transition Probabilities (1914 through

17. S. M. Younger, J. R. Fuhr, G. A. Martin, and W. L. Wiese
"Atomic Transition Probabilities for Vanadium, Chromium, and Manganese
Data 7, 495-630 (1978).

"Bibliography on Atomic Line Shapes and Shifts (June 1975 through

"Bibliography on Atomic Transition Probabilities (November 1977

20. W. L. Wiese and G. A. Martin
"Transition Probabilities" (U.S. Government Printing Office,

"Atomic Transition Probabilities for Iron, Cobalt, and Nickel (A

22. W. L. Wiese and G. A. Martin
"Atomic Transition Probabilities," CRC Handbook of Chemistry and
Physics, 63rd Edition, E334-E369 (CRC Press, Inc., Boca Raton, FL,
1982).

WORK IN PROGRESS

1. G. A. Martin, J. R. Fuhr, and W. L. Wiese
"Atomic Transition Probabilities (Sc through Ni--A critical Data

2. N. Konjevic, M. S. Dimitrijevic, and W. L. Wiese,
"Experimental Stark Widths and Shifts for Spectral Lines of Positive
Ions (A Critical Review and Tabulation of Selected Data for the

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SERVICES

Data, references, and technical information are supplied by the Center staff. Researchers who are interested in utilizing the services of the Center are invited to contact Georgia A. Martin, Jeffrey R. Fuhr, or Wolfgang L. Wiese either by mail or telephone [(301) 921-2071; FTS: 921-2071]].

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** Volume II of the NBS critical data compilation of atomic transition probabilities [W. L. Wiese, M. W. Smith, and B. M. Miles, Atomic Transition Probabilities—Sodium through Calcium, Nat. Stand. Ref. Data Ser., Nat. Bur. Stand. (U.S.) 22 (Oct. 1969)] is out of print. However, it can be purchased in hardcover form (photostatic copy) or microfiche from the National Technical Information Service (NTIS), order #AD 696 884. For information on current price and method of payment, contact NTIS directly: Telephone (703) 487-4650, National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161