The Atomic Spectroscopy Bibliography Database of the Institute for Spectroscopy, Troitsk

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A data bank BIBL containing bibliography on atomic data for plasma physics, atomic physics, astrophysics *etc.* is being developed at the Institute for Spectroscopy since 1987. The bibliographic information is supplemented by abstracts of papers and search keywords. A special system of spectroscopic keywords has been designed for the BIBL database. It allows very easy retrieval of information on search requests commonly required by spectroscopists, such as papers containing some specific kind of data concerning some specific ion or isoelectronic sequence. These kinds of search requests can not be executed in any other available bibliographic system. The data retrieval system is very simple and easy to use. It is self-documented and utilizes a menu system supplied with a context-sensitive help. The database works on IBM PC compatible computers with the MS DOS operating system or those that can emulate the MS DOS system.

The topics covered by BIBL are:

1. Spectra of atoms and positive ions:
   ionization potentials, line classification, energy levels, wavelengths, hyperfine structure, isotopic effects, broadening and shifts of spectral lines, the Stark and Zeeman effects, plasma diagnostics, astrophysical spectra, theory of atomic spectra, radiation and autoionization rates, oscillator strengths, QED and relativistic effects in atoms and ions, atomic-spectroscopy tests of the fundamental principles, spectral sources, techniques of spectral measurements.
2. Cross sections of the collision processes:
   excitation and ionization by electrons and photons, multiphoton processes, Auger decay, ion-electron recombination. To a lesser extent - charge exchange, excitation and ionization in collisions with heavy particles - if any new data related to atomic structure are obtained in these publications.

The bibliography related to experimental and theoretical papers on identification and prediction of atomic and ionic structure should be complete from 1983, the year of the last issue of NBS Special Publication “Bibliography on Atomic Energy Levels and Spectra”, but the experimental spectral analysis can be traced back to about 1970. On the other topics, it is systematically maintained since 1989. For the last three years, the commercial database “Current Contents on Diskettes” has been used for this purpose, with corresponding software for transforming the articles found into the BIBL format. Presently, there are about 6000 bibliographic records stored in the BIBL system.

The BIBL database is available free of charge and can be received on the Internet via the ftp service. The link to its location can be found on ISAN home page at address http://lls.isan.troitsk.ru/. The files are supplied in compressed form and occupy about 2 Mbytes, while the size of the uncompressed database is about 10 Mbytes.

An on-line network access to the database is under development and is planned to be ready within a year. The information will appear on ISAN Internet home page.

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