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Current Status of Atomic Spectroscopy Databases at NIST¹ ALEXANDER KRAMIDA, YURI RALCHENKO, JOSEPH READER, NIST - Natl Inst of Stds & Tech — NIST's Atomic Spectroscopy Data Center maintains several online databases on atomic spectroscopy. These databases can be accessed via the http://physics.nist.gov/PhysRefData web page. Our main database, Atomic Spectra Database (ASD), recently upgraded to v. 5.1, now contains critically evaluated data for about 215,000 spectral lines and 107,000 energy levels of almost all elements in the periodic table. This new version has added several thousand spectral lines and energy levels of Ca III, Mn II, Fe II, Co II, Ag II, and In II. Most of these additions contain critically evaluated transition probabilities important for astrophysics, technology, and fusion research. The ASD tables of ground states and ionization energies of all elements up to Ds (Z=110) in all ionization stages are currently being re-evaluated, updated, and extended with results of our new relativistic calculations. We continue maintaining and regularly updating our bibliography databases, ensuring comprehensive coverage of current literature on atomic spectra, including energy levels, spectral lines, transition probabilities, hyperfine structure, isotope shifts, Zeeman and Stark effects. Our other popular databases, such as the Handbook of Basic Atomic Spectroscopy Data, searchable at lases of spectra of Pt-Ne and Th-Ne lamps, and non-LTE plasma-kinetics code comparisons, continue to be maintained.

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