Critical Evaluation and Estimation of Uncertainties of Atomic Spectral Data at NIST

Alexander Kramida

National Institute of Standards and Technology, Gaithersburg, MD, USA

Abstract

This talk will briefly describe procedures developed and used in the Atomic Spectroscopy Group of the National Institute of Standards and Technology for critical evaluation of experimental and theoretical data on atomic energy levels, wavelengths, and radiative rates.

Biography

Alexander Kramida was born in 1956 in Dnepropetrovsk, Ukraine. He studied at Moscow Institute of Physics and Technology, Moscow, Russia, from 1973 to 1983 and received a PhD in Quantum Radiophysics in 1984 with a thesis titled “Identification of the 3s-3p and 3p-3d transitions of the neon-like ions S VII, Cl VIII, Ar IX and K X on the basis of spectra emitted by laser-produced plasmas.” From 1981 to 2000 he worked as a senior scientific researcher at the Institute of Spectroscopy of the Russian Academy of Sciences, Troitsk, Russia. From 2000 to 2003 he worked as a senior consultant at Apex Software, Inc., Phoenix, AZ, USA, developing databases and data-processing software. Since June 2003, he has worked at the Atomic Spectroscopy Group of the National Institute of Standards and Technology, Gaithersburg, MD, USA, first as a scientific consultant, and after receiving USA citizenship in 2011, at a permanent position of a physicist. He has been a member of the American Physical Society since 2000. In 2015, he received the Judson C. French Award from the National Institute of Standards and Technology, USA, for establishing the world’s premier resource for atomic reference data, relied upon for everything from nuclear forensics to Hubble data analysis. He has published over 50 articles in major international and national journals and books. He is married and has two children.