

VAMDC AS A RESOURCE FOR ATOMIC AND MOLECULAR DATA AND THE NEW RELEASE OF VALD

F. Kupka¹ and the VAMDC Collaboration (P.I. M.-L. Dubernet^{2,3})

¹*Faculty of Mathematics, University of Vienna, Nordbergstraße 15,
A-1090 Vienna, Austria*

²*LPMAA, Université Pierre et Marie Curie, France*

³*LUTH, Observatoire de Paris, France*

E-mail: Friedrich.Kupka@univie.ac.at

The Virtual Atomic and Molecular Data Centre (VAMDC, see M.L. Dubernet et al. 2010, JQSRT 111, 2151) is an EU-FP7 e-infrastructure project devoted to building a common electronic infrastructure for the exchange and distribution of atomic and molecular data. It involves two dozen teams from six EU member states (Austria, France, Germany, Italy, Sweden, United Kingdom) as well as Russia, Serbia, and Venezuela. Within VAMDC scientists from many different disciplines in atomic and molecular physics collaborate with users of their data and also with scientists and engineers from the information and communication technology community. In this talk an overview of the current status VAMDC and its capabilities will be provided. In the second part of the talk I will focus on one of the data bases which have become part of the VAMDC platform, the Vienna Atomic Line Data Base (VALD). VALD has become a well-known resource of atomic data for spectroscopy particularly in astrophysics. A new release, VALD-3, will provide numerous improvements over its predecessor. This includes both the data contents which feature the inclusion of new sets of atomic data for both precision spectroscopy (i.e., with data for observed energy levels) as well as opacity calculations (i.e., with data involving predicted energy levels). Data for selected diatomic molecules is now included in the distribution and a new system for data distribution and data referencing provides for more convenience in using the enhanced and improved sets included in the third release of VALD.