

Jevremović, Zoran Simić, Edi Bon and Nenad Milovanović. Recently, in this activity is also included Veljko Vujičić.

In this lecture, we will consider VAMDC, a good example of the global collaborations and development of new facilities in e-science. Also, we will present AOB VAMDC Node and our plans for its further development.

STARK-B DATABASE AND VIRTUAL ATOMIC AND MOLECULAR DATA CENTER – VAMDC

Milan S. Dimitrijević^{1,2}, Sylvie Sahal-Bréchet²

¹Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia

²Laboratoire d'Etude du Rayonnement et de la Matière en Astrophysique, Observatoire de Paris-Meudon, UMR CNRS 8112, Bâtiment 18, 5 Place Jules Janssen, F-92195 Meudon Cedex, France

The database STARK-B is a collaborative project between Laboratoire d'Etude du Rayonnement et de la matière en Astrophysique of the Observatoire de Paris-Meudon and the Astronomical Observatory of Belgrade. For the moment STARK-B contains Stark line broadening parameters (widths and shifts) obtained within the impact approximation using the semiclassical perturbation approach and the impact approximation. It is devoted for modelling and spectroscopic diagnostics of stellar atmospheres and envelopes, as well as for laboratory plasmas, laser equipment, inertial fusion plasma and technological plasmas.

STARK-B database is a part of the core of European Virtual Atomic and Molecular Data Center (<http://www.vamdc.eu>, VAMDC) e-infrastructure, one of the databases upon which it is based.

In this review, the STARK-B database will be presented as well as its connection with VAMDC.

SERBIAN VIRTUAL OBSERVATORY, VIRTUAL ATOMIC AND MOLECULAR DATA CENTER – VAMDC AND ASTROINFORMATICS

Darko Jevremović, Milan S. Dimitrijević, Luka Č. Popović, Jovan Aleksić

Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia

SerVO - Serbian virtual observatory (<http://www.servo.aob.rs/~darko>) started as a project whose funding was approved through a grant TR13022 from Ministry of Science and Technological Development of Republic of Serbia, with duration of 33 months from April 1st 2008 till December 31st 2010. From the 1st January of 2011, SerVO is financed by the Ministry of Education and Science of Republic of Serbia through the project III44002 "Astroinformatics and virtual observatories". After establishing SerVO and

starting to digitize and archive photo plates and other astronomical data produced at Belgrade Astronomical Observatory, the aims are: i) To work on the development of SerVO and to join the EuroVO and IVOA; b) To develop SerVO data Center which will work on the digitizing, archiving and publishing in VO format photo-plates; c) To work on the development of tools for visualization of data; d) Make a regional node of Virtual Atomic and Molecular Data Center – VAMDC; e) Make a mirror site of STARK-B - Stark broadening data base containing as the first step Stark broadening parameters, obtained within the semiclassical perturbation approach and impact approximation, in VO compatible format; f) Make a mirror site for DSED - Dartmouth Stellar Evolution Database in the context of VO, and g) to put online electronic editions of serbian astronomical institutions.

In this review, the SerVO will be presented, and its history, aims and future plans, as well as its connections with European Virtual Atomic and Molecular Data Center (<http://www.vamdc.eu>, VAMDC), and its node on Belgrade Astronomical Observatory will be considered.

RESULTS OF THE LONG-TERM SPECTRAL OPTICAL MONITORING OF THE ACTIVE GALAXY 3C390.3

Dragana Ilić¹, Luka Č. Popović², Alla I. Shapovalova³, Andjelka Kovačević¹,
Nikolai G. Burenkov³, Vahram H. Chavushyan³

¹Department of Astronomy, Faculty of Mathematics, Studentski Trg 15, 11000 Belgrade, Serbia

²Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia

³Special Astrophysical Observatory of the Russian AS, Russia

The structure of the broad line region (BLR) in active galactic nuclei (AGN) is still not well known. The BLR is close to the central supermassive black hole and may hold basic information about the formation and fueling of AGN, as well as of the mass of the black hole in the center.

The AGN are highly variable objects. Especially their broad emission lines (BEL) are changing dramatically. The investigation of the BEL flux and profile variability in a long period is very useful for mapping the geometrical and dynamical structure of the BLR.

Here we present the result of the long-term spectral optical monitoring of a well know radio-loud AGN 3c390.3 that exhibit interesting double-peaked BEL profiles.