

ABSTRACTS

INVITED LECTURES

SPECTROSCOPY AS A TOOL FOR DETECTION OF SUPERMASSIVE BINARY BLACK HOLES

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Spectroscopy can be very useful in detection of super-massive binary black holes. Here we will discuss the possible emission of gas around binary black hole, and consider the changes in spectra (narrow and broad spectral lines) due to the existence of such objects.

VIRTUAL ATOMIC AND MOLECULAR DATA CENTER – VAMDC AND AOB NODE. PRESENT STATUS AND PERSPECTIVES

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Virtual Atomic and Molecular Data Center (<http://www.vamdc.eu>, VAMDC), an European Union funded FP7 project with the objective to create a secure, documented, flexible and interoperable e-science environment-based interface to existing atomic and molecular data, will be presented in this review. It will also provide a forum for dissemination and training of potential users.

Project leader is Marie-Lise Dubernet from Observatoire de Paris and core consortium is made of 15 institutions with 24 scientific groups from France, Serbia, Russia, England, Austria, Italia, Germany, Sweden and Venezuela.

The VAMDC facilities will be first of all useful for Astronomy, Plasma science, Atmospheric Science Radiation science and Fusion community as well as Industries using technological plasmas and Lightning industry and will represent a powerful tool for a better and easier search for the needed atomic and molecular data and an efficace data mining.

The participants of AOB (Astronomical Observatory – Belgrade) VAMDC Node are: Milan S. Dimitrijević, Luka Č. Popović, Andjelka Kovačević, Darko

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

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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

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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