VII SERBIAN CONFERENCE ON SPECTRAL LINE SHAPES IN ASTROPHYSICS
15-19 June 2009, Zrenjanin, Serbia
Book of Abstracts, Eds. L. Č. Popović, M. S. Dimitrijević, D. Jevremović and D. Ilić
Serbian Astronomical Society and Astronomical Observatory, Belgrade, 2009

Progress report

THE PROJECT OF SERBIAN VIRTUAL OBSERVATORY AND DATA FOR STELLAR SPECTRA MODELLISATION

Darko Jevremović[1], Milan S. Dimitrijević[1], Luka Č. Popović[1], Miodrag Dačić[1], Vojislava Protić-Benišek[1], Edi Bon[1], Vladimir Benišek[1], Andjelka Kovačević[2], Sylvie Sahal-Bréchot[3]

[1] *Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia*
E-mail: darko@aob.bg.ac.yu

[2] *Faculty of Mathematics, Belgrade, Serbia*

[3] *Observatoire de Paris, Meudon, France*

Serbian virtual observatory is a new project whose funding was approved through a grant TR13022 from Ministry of Science and Technological Development of Republic of Serbia. The project objectives are:

-establishing SerVO and join the EuroVO and IVOA;

-establishing SerVO data Center for digitizing and archiving astronomical data obtained at Belgrade Astronomical Observatory;

-development of tools for visualization of data.

Main aim is to publish data obtained by Serbian astronomers as well as to provide astronomers in Serbia with VO tools for their research. In the first three years of the project the main goals are:

-digitization and publishing in VO photo-plates from the archive of AOB (Protić-Benišek et al., 2006);

-publishing, together with Observatoire de Paris, STARK-B - Stark broadening data base containing as the first step Stark broadening parameters obtained within the semiclassical perturbation approach by two of us (MSD-SSB) in VO compatible format;

-make a mirror site for DSED (Darthmouth Stellar Evolution Database - Dotter et al. 2007, 2008) in the context of VO

The digitization and publication in VO of around 15000 photo plates archived on Belgrade Astronomical Observatory, as well as stellar catalogues produced in Serbia, and digitization of astronomical publications, is in progress. Also, together with french colleagues, in progress is the development of the database STARK-B with Stark broadening data of interest for stellar spectra analysis and modeling, produced during more of 30 years of French-Serbian collaboration. It will enter in VAMDC - Virtual Atomic and Molecular Data Center, MOLAT and SerVO.

References

Dotter, A., Chaboyer, B., Jevremović, D., Baron, E., Ferguson, J. W., Sarajedini, A., Anderson, J., 2007, The ACS Survey of Galactic Globular Clusters. II. Stellar Evolution Tracks, Isochrones, Luminosity Functions, and Synthetic Horizontal-Branch Models, *Astron. J.*, **134**, 376.

Dotter, A., Chaboyer, B., Jevremović, D., Kostov, V., Baron, E., Ferguson, J. W., 2008, The Dartmouth Stellar Evolution Database, *ApJS*, **178**, 89.

Protić-Benišek, V., Benišek, Vl., Mihajlov, A., Jakšić, T., Pavičić, G. Nikolić, S., Knežević, N., 2006, On the Belgrade astrophotographic plate archive: preliminary results, *Publ. Astron. Obs. Belgrade*, **80**, 355.

Progress report

INFLUENCE OF GRAVITATIONAL MICROLENSING ON BROAD ABSORPTION LINES OF QSOs

Predrag Jovanović[1], Luka Č. Popović[1] and Saša Simić[2]

[1] *Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia*
E-mail: pjovanovic@aob.bg.ac.yu

[2] *Department of Physics, Faculty of Sciences, University of Kragujevac, Serbia*

Here we give a brief overview of some investigations of the gravitational microlensing influence of spectral lines of lensed QSOs. Especialy, we consider the microlensing influence on broad absorption lines using a model of an accretion disk covered by an absorbing region. Gravitational microlensing is modeled by ray shooting method which enables us to obtain realistic microlensing patterns. We obtain that microlensing can affect both emission and absorption component of line that depends on dimensions on emission and absorption line regions. Here we give detailed analyses of emission and absorption line shape variations due to gravitational microlensing.