Poster

STARK BROADENING OF In III FOR ASTROPHYSICAL AND LABORATORY PLASMA RESEARCH AND FOR STARK-B DATABASE

Z. Simić[1], M. S. Dimitrijević[1], A. Kovačević[2] and S. Sahal-Bréchot[3]

[1]*Astronomical Observatory, Volgina 7, 11060 Belgrade, Serbia*
[2]*Department for Astronomy, Faculty for Mathematics,*
Studentski Trg 16, 11000 Belgrade, Serbia
[3]*Observatoire de Paris, LERMA, CNRS, UMR 8112, 5 Place Jules Janssen,*
92190, Meudon, France
E-mail: zsimic@aob.bg.ac.rs, mdimitrijevic@aob.bg.ac.rs,
andjelka@matf.bg.ac.rs, sylvie.sahal-brechot@obspm.fr

Interest in a very extensive set of data on broadening of indium spectral lines has been stimulated by numerous problems in astrophysics, physics, and plasma technology. In hot star atmospheres exist conditions where Stark widths are comparable and even larger than the thermal Doppler widths, so that the corresponding line broadening parameters are of importance for the hot star plasma investigation. Here, we investigated theoretically the influence of collisions with charged particles on heavy element spectral line profiles for In III in spectra of A stars and white dwarfs. We applied semiclassical perturbation theory. We also determined a number of Stark broadening parameters of interest for A stars and white dwarf plasmas investigations. Also, we compared obtained results with existing experimental data. Now, work on their inclusion in STARK-B database and in Virtual Atomic and Molecular Data Center, an FP7 european project, as well as in Serbian Virtual Observatory is in progress.

Poster

PROFILE OF THE 404.6 nm Hg I LINE

M. Skočić, M. Burger, M. Ljubisavljević, S. Bukvić

Faculty of Physics, Belgrade University, Studentski trg 12, 11000 Belgrade 38, Serbia
E-mail: skocic@ff.bg.ac.rs

Profile of the 404.6565 nm Hg I spectral line has been measured. The (L.O.T. Oriel LSP035 Hg(Ar)) and (OSRAM Hg-Cd/10) spectral lamps were used as a light sources. The spectrograph (Zeiss PGS 2) with the grating (2100 gr/mm) was used in a double pass connected with the photomultiplier (Hamamatsu R928) as a detection system. We have identified the hyperfine structure components. The found pattern of components and the related intensities agree with the existing published data.