X Serbian-Bulgarian Astronomical Conference (X SBAC) May 30 - June 3, 2016, Belgrade, Serbia Book of Abstracts, Eds. M. S. Dimitrijević and M. K. Tsvetkov Astronomical Observatory, Belgrade, 2016

Poster paper

INVERSE BREMSSTRAHLUNG CHARACTERISTICS IN DWARF ATMOSPHERES: THE ABSORPTION COEFFICIENTS AND GAUNT FACTORS

Anatolij A. Mihajlov¹, Vladimir A. Srećković¹, Nenad M. Sakan¹ and Milan S. Dimitrijević^{2,3,4}

¹University of Belgrade, Institute of Physics, P. O. Box 57, 11001, Serbia ²Astronomical Observatory, Volgina 7, 11160 Belgrade 74, Serbia ³IHIS-Technoexperts, Bežanijska 23, 11080 Zemun, Serbia ⁴Observatoire de Paris, 92195 Meudon Cedex, France E-mail: vlada@ipb.ac.rs

Here we determine the electron-ion inverse "Bremsstrahlung" characteristics for the case of the white dwarf atmospheres where such plasma characteristics as plasma density and temperature change in wide region. It is presented that determination of these characteristics i.e. the absorption coefficients and Gaunt factors can be successfully performed in the whole diapason of electron densities and temperatures which is relevant for the corresponding atmospheres.

The used quantum mechanical method of the calculation of the corresponding spectral absorption coefficient and Gaunt factor is described and discussed in details in the papers of Mihailov *et al.* (2011, 2015).

The results are obtained for the DB White dwarf models (Koester 2015 private communication) in the wavelength region 100 nm $< \lambda <$ 3000 nm and presented in tabulated form. Also, these results can be of interest and use in investigation of different stellar and laboratory plasmas.

References

Mihajlov, A. A., Srećković, V. A., Sakan, N. M.: 2015, *Journal of Astrophysics and Astronomy*, **36**, 3.

Mihajlov, A. A., Sakan, N. M, Srećković, V. A.: 2011, Balt. Astron., 20, 604.