

IV Meeting on Astrophysical Spectroscopy - A&M DATA

## **On the Stark broadening parameters of Ir II spectral lines**

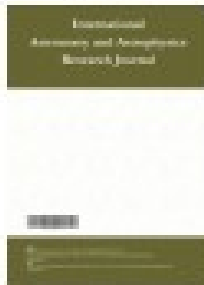
Zoran Simić<sup>1</sup> and Nenad Sakan<sup>2</sup>

<sup>1</sup>Astronomical Observatory, Volgina 7, 11060 Belgrade, Serbia

E-mail: [zsimic@aob.rs](mailto:zsimic@aob.rs)

<sup>2</sup>*University of Belgrade, Institute of Physics, PO Box 57, 11001 Belgrade, Serbia*

Within the frame of the presented work a additional data for 50 more Ir II spectral lines are added to the previously calculated data of 301 lines presented earlier (Simić et al. 2021). The enhanced dataset is applicable to the describing of CP stars spectra.



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## **Singly Ionized Iridium Spectral Lines in the Atmosphere of Hot Stars**

**Zoran Simić<sup>1\*</sup>, Nenad M. Sakan<sup>2</sup>, Nenad Milovanović<sup>1</sup>  
and Mihailo Martinović<sup>3,4</sup>**

<sup>1</sup>*Astronomical Observatory, Volgina 7, 11060 Belgrade, Serbia.*

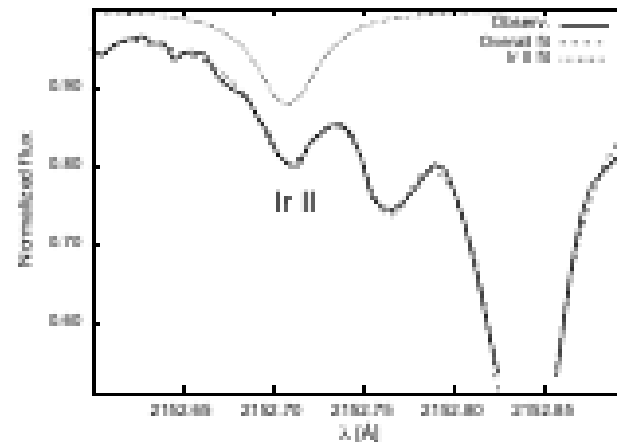
<sup>2</sup>*University of Belgrade, Institute of Physics, P.O.Box 57, 11001 Belgrade, Serbia.*

<sup>3</sup>*Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721, USA.*

<sup>4</sup>*LESIA, Observatoire de Paris, Meudon, France.*

The total number of 301 spectral lines of Ir II presented here is an extensive task, so we plan to continue research on another 172 lines from its spectrum whose intensities are much lower. This paper contributes to the formation of a database on the Stark broadening of ionized iridium spectral lines.

We have synthesized the line profiles of 21 Ir II strongest lines using SYNTH code [23] and the ATLAS9 code for stellar atmosphere models [24, 25] in the temperature range of  $6000 \leq T_{\text{eff}} \leq 16,000$  K, and  $4.0 \leq \log g \leq 5.0$ . For calculations with SYNTH code we need logarithmic values of Stark widths expressed in  $\text{rads}^{-1}$  per electron for  $T = 10,000$  K. Also, for the spectrum synthesis parameter  $A_0$  is very useful and can be obtained from corresponding values of  $\log(A_0)$ . In the case of 2152.7 Å we used  $\log A_0 = -0.49986$  where  $A_0 = 4.81915$ .



**Fig. 5.** From the observed spectrum of  $\chi$  Lupi presented in [9], the fitting procedure is used to extract the Ir II 2152.7 Å line parameters assuming the Voigt line profile. The solid line presents experimental observation spectra, while the long dashed line is the overall fit, and short dash line is the sought line fit.

THANK YOU!