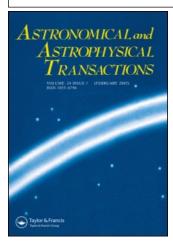
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Astronomical & Astrophysical Transactions

The Journal of the Eurasian Astronomical Society

Publication details, including instructions for authors and subscription information: http://www.informaworld.com/smpp/title~content=t713453505

Parameters and chemical composition of y Tau

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Online Publication Date: 01 January 1992

To cite this Article: Mishenina, T. V., Klochkova, V. G. and Ryadchenko, V. P. (1992) 'Parameters and chemical composition of y Tau', Astronomical &

Astrophysical Transactions, 3:2, 183

To link to this article: DOI: 10.1080/10556799208230557 URL: http://dx.doi.org/10.1080/10556799208230557

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PARAMETERS AND CHEMICAL COMPOSITION OF y TAU

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(29 December 1991)

A model-atmosphere analysis of γ Tau is based on the spectrum taken with the echelle-spectrometer ESPAC with CCD device (Klochkova et al., 1991) at 6 m telescope of Special Astrophysical Observatory. The spectral wavelength range is λλ 4100-6600 A; the spectrum consists of 24 bands, each 30 A wide. The signal-to-noise ratio is 100, the spectral resolution is $\Delta \lambda = 0.2 \text{ A}$.

- The atmosphere parameters of γ Tau determined are as follows:

 —The effective temperature T_{eff} was obtained from: (a) the scale of the effective temperatures, (b) the color index B-V, and (c) the energy distribution. The average value is $T_{\text{eff}} = 5000 \text{ K}$ (Mishenina et al., (1991).
- —The gravity acceleration $\lg g$ has been obtained from: (a) the distance modulus of the Hyades and (b) the ionization equilibrium for iron. The average value is $\lg g = 2.7$.
 - -The turbulent velocity, $V_t = 2 \text{ km/s}$.

Chemical composition has been obtained with the aid of the WIDTH-6 software and the atmosphere model with $T_{\text{eff}} = 5000 \,\text{K}$ and $\lg g = 2.7$. The oscillator strengths lg gf were adopted from Gurtovenko and Kostyk (1989).

Abundances, relative to the solar values, were determined for the following elements: [0] = -0.15, [Na] = 0.40, [Mg] = 0.29, [Si] = 0.05, [Ca] = 0.12, [Ti] = 0.120.08, [V] = 0.12, [Mn] = 0.07, [Fe] = 0.00, [Co] = 0.15, [Ni] = 0.09, and [Ba] = 0.080.20.

These values are similar to the solar ones, only a slight excess of sodium and deficiency of oxygen have been found.

References

- 1. Klochkova, V. G., Panchuk, V. E. and Ryadchenko, V. P. (1991). Pis'ma Astron. Zh. 17, 645.
- 2. Mishenina, T. V., Komarov, N. S. and Kantsen, L. E. (1991). Astrofis. Issled. (Izv. Spets. Astrofis. Obs. Akad. Nauk SSSR 31, 82.
- 3. Gurtovenko, E. A. and Kostyk, R. I. Fraunhoffer Spectrum and the system of solar oscillator strengths. (Nauk. Dumka, Kiev, 1989), 198 p.