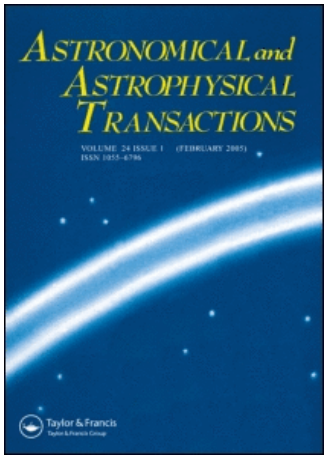

Astronomical & Astrophysical Transactions
The Journal of the Eurasian Astronomical Society
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713453505

The search of rotational modulation of the T Tauri-type stars in the ophiuchus dark clouds

V. B. Kondratiev [a]; V. S. Shevchenko [a]
[a] Mirzo Ulugbek Astronomical Inst, Acad. Sci of Uzbekistan, Taskent, Uzbekistan

Online Publication Date: 01 July 1997
To cite this Article: Kondratiev, V. B. and Shevchenko, V. S. (1997) 'The search of rotational modulation of the T Tauri-type stars in the ophiuchus dark clouds', Astronomical & Astrophysical Transactions, 13:4, 317
To link to this article: DOI: 10.1080/10556799708202975
URL: http://dx.doi.org/10.1080/10556799708202975

Astronomical and Astrophysical Transactions, 1997, Vol. 13, pp. 317–317
Reprints available directly from the publisher
Photocopying permitted by license only

THE SEARCH OF ROTATIONAL MODULATION OF THE T TAURI–TYPE STARS IN THE OPHIUCHUS DARK CLOUDS

V. B. KONDRATIEV and V. S. SHEVCHENKO

Mirzo Ulugbek Astronomical Inst, Acad. Sci of Uzbekistan, Taskent, Uzbekistan

(Received November 30, 1995)

We present some results of the long-term photometric program ROTOR being carryed out at the Mt. Maidanak observatory. The program seeks for a periodic components in the emission of the non-stationary T Tauri-type stars (TTS), HAEBE, FUORs and related objects. In this paper we analyse the results concerning TTS in Rho Oph dark clouds and vicinity. Our sample of stars includes 6 weak-emission TTS (WTTS) and 11 classical TTS (CTTS).

KEY WORDS T Tauri type stars, star rotations, star formations

All the WTTS investigated have significant rotational photometric periods which are due to the spotness of star photospheres and if only two stars (S–R 9 and S–R 12) conserved their periods and initial epochs almost invariable during the whole observational time. We interpret the phenomenon of the stability of rotational photometric periods and phases within the scope of magnetic sun-like stellar activity. Spots concentration on the so-called active longitudes can explain this phenomenon.

Among the CTTS in our sample are one eclipsing binary (Do–Ar 9) and one proto-algol candidate (Haro 1–14). The CTTS V853 Oph demonstrates continuous elevation of its brightness (like EX Lup) since 1989. Very active CTTS V866 Sco shows quick irregular brightness changes, with cyclic wave superimposed. The CTTS remaining have smaller lightcurve amplitudes (typically 0.5 mag). We have found periodicities which is due to a spots (cool and hot) on the surfaces of some investigated CTTS. The full text of the paper was sent to Astron. and Astrophys. Suppl. Ser.