H P5 Modeling the spectrum of TT Hya – Algol binary with a disc

J. Budaj[1,2] **and M. T. Richards**[1]

[1] *Dept. of Astronomy and Astrophysics, Penn State Univ., Davey Lab. 525, University Park, 16802 PA, USA*

[2] *Astronomical Institute of the Slovak Academy of Sciences, 059 60 Tatranská Lomnica, Slovakia*

We calculate the synthetic spectra of this Algol type eclipsing binary system with an A type primary surrounding by a disc and an evolved secondary filling its Roche lobe. A new code SHELLSPEC was developed for this purpose to solve the simple radiative transfer along the line of sight propagating through the 3D moving medium in LTE. The synthetic spectra are then compared with the observed ones and output of Doppler tomography which enable us to derive independent constraints on the behavior of state quantities, velocity field and geometry of the disc.