CHROMOSPHERIC STRUCTURE AND ENERGY BALANCE OF T TAURI STARS

A. Brown

Joint Institute for Lab. Astrophysics

University of Colorado and Ntl. Bureau of Standards, Boulder, CO, USA

The analysis of *IUE* spectra of T Tauri stars using emission measure techniques to yield models of chromospheric and transition region structure is illustrated. The star SU Aurigae is used as a particular example. Mean emission measure distributions for this and other stars are compared. Pressure and temperature models are displayed. General conclusions from such modelling are outlined. This work was supported by NASA grant NAG S-82 and partially carried out using the University of Colorado *IUE* RDAF.

A PARADOXICAL GAP IN THE RELATIVE AGES OF T TAURI STARS

W.B. Weaver

Monterey Institute for Research in Astronomy

Carmel Valley, CA, USA

The distribution of the number of T Tauri stars by youth (relative age) shows a pronounced gap at 5% of their time to the ZAMS. This gap, which occurs in all of the four major T Tauri associations, is too large to be filled by unclassifiable veiled stars. It is nearly vertical on the Hertzsprung-Russell diagram and is centered near spectral class K5.

TW HYA: A T TAURI STAR FAR FROM ANY DARK CLOUD

S.M. Rucinski

Institute of Astronomy, Cambridge, UK

and

J. Krautter

Max-Planck Institut für Extraterrestrische Physik, Garching, FRG

On the basis of *UBVRI* observations obtained during 12 consecutive nights we discuss photometric variability of TW Hya. The observed range of magnitude was 10.9 to 11.3 in *V* but decreased rapidly in long wavelengths passbands. The mean colors and *JHKL* observations have been used to obtain the spectral energy distribution which has both an infrared and ultraviolet excess when compared with a K7V distribution (based on the photospheric spectrum of TW Hya). Spectrograms over the range 3600-9000 Å have been obtained. The lithium line is in absorption but it is not as strong as in typical pre-main sequence stars. The spectra reveal the presence of the highly variable and strong emission of hydrogen; emission lines of He I, Ca II, Fe II, and O I are also present. These spectral features and the color excesses observed in the visual region suggest strong chromospheric activity of TW Hya. TW Hya is outstanding in the sense that it has all the properties of a classical T Tauri star but is located very far from any dark cloud.