

FAST SCANNING SLIT NEAR IR PHOTOMETRY OF T TAURI
STARS IN CLOSE BINARIES: ELIAS 22 AND CHAMALEON*

L. Carrasco¹, A. Chelli¹, H. Zinnecker²,
I. Cruz-González¹, and C. Perrier³

1. Instituto de Astronomía, Universidad Autónoma de México.
2. Royal Observatory, Edinburg, Scotland.
3. Observatoire de Lyon, Saint Genis-Laval, France.

ABSTRACT. Fast scanning slit photometry in the near IR (J, H, K, L) is reported for two new close (separation ≈ 300 AU) binary systems in which at least one member is a YSO, namely a T Tauri star.

In contrast with T Tauri itself, in our systems the red component dominates the luminosity of the system at wavelengths longer than $2 \mu\text{m}$. The bolometric luminosities for these pairs are for the red and blue components 0.9 and $2.5 L_{\odot}$ and 4.2 and $1.4 L_{\odot}$ in Elias 22 and Cha I, respectively.

These binaries are of particular interest since they are pre-main sequence objects and in principle should provide us with key information of early binary evolution and fragmentation, as function of stellar mass and environmental physical conditions of the placental clouds. A full version of this work is in preparation.

Key words: STARS-BINARIES — INFRARED-PHOTOMETRY

DISCUSSION

MENDOZA: ¿Piensan continuar las observaciones con el objeto de derivar masas? Suponiendo que las estrellas son más masivas de lo que actualmente se acepta, entonces podría resultar que el período fuese mucho menor que mil años, de tal forma que en pocos años se podrá tener una idea bastante aceptable del período y de las masas.

CARRASCO: Habría que establecer un programa a largo plazo, ya que eventualmente nos dará una masa directa para las estrellas en la binaria.

* Based on observations obtained in May 1986 at the European Southern Observatory, La Silla, Chile.

L. Carrasco, I. Cruz-González, and A. Chelli: Instituto de Astronomía, UNAM, Apartado Postal 70-264, 04510 México, D.F., México.

H. Zinnecker: Royal Observatory, Blackford Hill, Edinburg EH9 3HJ, Scotland, United Kingdom.

C. Perrier: Observatoire d'Lyón, Saint-Genis-Laval, 69231, France.