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BRUN 276, A YOUNG STAR BELOW THE MAIN-SEQUENCE?

Brun 276 is a faint object in the vicinity of the Orion Nebula. We have secured a MEPSICRON (Firmani et al., 1984) spectrum of B276 with the 2.1 m telescope at San Pedro Mártir Observatory of the University of Mexico, on October 17, 1985 (U.T.). This spectrum covers the spectral range $\lambda\lambda$ 3700 - 6900 Å (1024 pixels); although it is under-exposed ($V \approx 18.0$ during the observation) and it is also contaminated by the nebula, it is possible to see stellar lines of calcium II (H and K) and hydrogen Balmer lines in emission (probably H β is as strong as H α). Altogether the spectrum indicates T Tauri star, possibly of early K-type.

Walker (1969) gives $V=18.04$, $B-V=+0.73$ and $U-B=-0.99$. Haro (1976) gives $I \approx 17$. These values indicate that B276 is neither heavily obscured by interstellar extinction, nor with a large infrared-excess, probably. If we use a mild infrared colour excess of a T Tauri star (Mendoza, 1966) for B276, then we derive $M_{bol} \approx 9$. The (B-V) colour-index and the spectral type yield $T_e \approx 4800$ °K. If these values are not very wrong, then B276 lies below the main-sequence, at least one magnitude.

We conclude that B276 is a pre-main-sequence star embedded in the Orion Nebula, which lies below the main sequence because

- 1) It is a variable star (Brun, 1935)
- 2) It has a variable H α -emission line (Haro, 1976, 1980; Parsamlan and Chavira, 1982)
- 3) The spectrum is of a T Tauri star
- 4) The combined observational data locates it below the main sequence, most likely.

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