

ELONGATED STRUCTURES NEAR YOUNG STARS: JETS OR PROJECTION EFFECTS?

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Recent observations in radio, infrared and visible wavelengths have revealed the presence of small, elongated gaseous structures that appear to emanate from young stars. These structures are frequently interpreted as jets, perhaps similar in nature to those observed in extragalactic objects. We argue that these apparent "jets" could simply be light emitted by, or reflected from the walls of the cavities expected to be formed when the winds of these young stars drive their surrounding gaseous medium away. When viewed from certain positions the radiation from the walls of these cavities appears to the observer as elongated structures. A simple model is presented to illustrate this projection effect.

We also discuss some well known sources both young and evolved (PV Cep, R Mon, R CrA, G34.3+0.2, R Aqr, and NGC 6302), where this projection effect may be at work.

THE ENERGY SOURCE OF HH34 AND ITS HIGHLY COLLIMATED JET

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We have discovered a highly collimated optical jet emanating from a faint star and pointing towards the Herbig-Haro object HH34 (Reipurth 1985, Reipurth *et al.* 1986).

The jet consists of six knots extending over about 16 arcseconds, which at a distance of 500 pc corresponds to about 8000 AU. At very low light levels the jet can be followed for 9" - 10" to a faint emission line star, which we identify as the energy source. Low and high resolution spectra show that the jet is shock-excited with a characteristic