et al. 2001), and the H_2 (Noriega-Crespo et al. 1997) and CO (Moro-Martín et al. 1999) emission of the HH 1/2 system. Clearly, a lot of effort will have to be done for such modelling to be successful, and non-trivial problems might be encountered.

Finally, it is notable that most of the best available observations of HH 1 and 2 have been obtained more than a decade ago. Clearly, new spectrophotometric and high dispersion spectroscopic observations would be worthwhile, as they would provide data of considerably improved quality.

8.4. *The continuum emission*

The optical and UV continua of HH 1 and 2 apparently have strong contributions from collisionally enhanced 2-photon H emission (Brugel et al. 1982; Dopita et al. 1982a). At UV wavelengths, there might also be a contribution from the H_2 dissociation continuum (Böhm et al. 1987; Lee et al. 1988).

Very little theoretical work has been done regarding the continuum emission of HH 1 and 2, and basically no effort has been done to model the spatial distribution of the continuum emission (e.g., the radio continuum predictions of Curiel et al. 1987 and Ghavamian & Hartigan 1998 were restricted to p-p shocks). Clearly, more observational and theoretical efforts will be necessary in order to contribute to the understanding of the continuum emission of HH 1/2 (and of HH objects in general).

8.5. *Abundances*

An interesting line of research has been the determination of the gas phase abundances of the HH 1/2 system. Böhm et al. (1976) found that HH 1 and 2 had abundances consistent with Population I abundances, indicating that no depletion due to dust grains was present. This result was strengthened with further data by Böhm & Brugel (1979) and Brugel et al. (1981a). Beck-Winchatz, Böhm, & Noriega-Crespo (1994) presented a re-analysis of older data, confirming the absence of dust in HH 1 (but found evidence of dust depletion in Burnham's nebula).

The paper of Nisini et al. (2005, who present 0.6–2.5 μm long-slit spectra) somewhat surprisingly find that the spectrum of the HH 1 jet (to the NW of the VLA 1 source) does show evidence for Fe, C, Ca and Ni depletions. This result implies that the gas along the jet flow does have dust.

This is a problem that merits further study. More spatially-resolved abundance determinations would be useful, as well as theoretical models of dust destruction in the shocks associated with the jet knots and jet head.

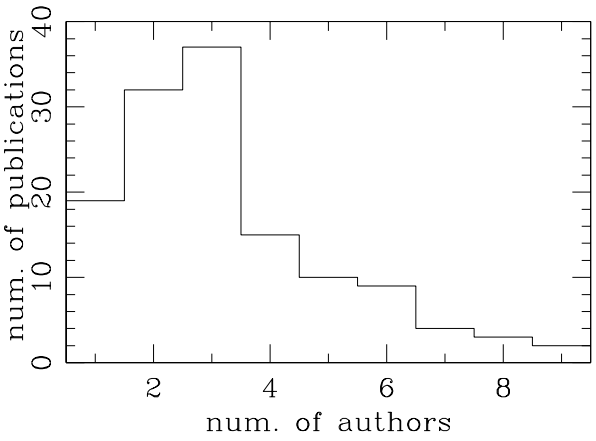

Fig. 7. Frequency distribution of the number of co-authors in the papers of the HH 1/2 database.

8.6. *Time-variability*

Herbig (1968, 1973) showed that the optical emission of both HH 1 and 2 is variable. This time-dependence was followed at later times by Herbig & Jones (1981) and Raga et al. (1990). Böhm et al. (1976) found that n_e and T_e determined from diagnostic lines also appeared to change over periods of ∼15 yr (in HH 1/2). Brugel et al. (1985) and Böhm et al. (1993) found that the UV spectrum of HH 1/2 showed substantial changes over periods of a few years.

Apparently, there are no more recent discussions of the variability of HH 1 and 2. What has happened during the last ∼10 years? Have the brightening trends (Herbig & Jones 1981) of some of the HH 2 condensations continued? Clearly, it would be worthwhile to have more up-to-date studies of this time-evolution.

9. CONTRIBUTIONS OF INDIVIDUAL AUTHORS AND COLLABORATIONS

The papers on HH 1/2 have had relatively small numbers of co-authors. Figure 7 shows the frequency distribution of the number of co-authors, with a clear peak at three co-authors, and an extended wing, ending with two papers with nine co-authors. The mean is of 3.27 authors per paper.

In order to evaluate the contribution of individual authors, we have calculated their "normalized contribution" as $c_a = \sum_i (n_{a,i})^{-1}$, where $n_{a,i}$ are the number of coauthors of the papers which include author a. We first make a list of authors in order of decreasing c_a contributions, and we then compute a cumulative distribution function.