

## WIDE BINARIES IN THE PLEIADES

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The number and distribution of visual binaries in the Pleiades agree with the frequencies in the solar neighbourhood, except for an apparent deficiency of systems with faint secondaries. A full account of the work is scheduled to appear in *Astrophysics and Space Science*.

### DISCUSSION

*TRIMBLE:* Bob Harrington has pointed out that in the case of the Hyades, and probably the Pleiades as well, that some of the so-called visual binaries (in the sense of being common proper-motion pairs) are not, in fact, gravitationally bound to each other compared to the total cluster gravitational potential. So that a few of the stars in the right-hand end of your diagram are perhaps not real binaries, in the sense that they are not gravitationally bound to each other.

*BROSCHÉ:* Generally, yes, but probably not below our upper limit of about 200 AU.

*KING:* Perhaps you said this and I didn't hear it, but what criterion did you have to be sure that you were excluding optical pairs?

*BROSCHÉ:* We have computed the distribution of all the mutual distances and this distribution has to run for optical pairs, just like the surface you are counting; and since we are counting in logarithmic intervals, it has to run like  $r^2$ , and it does it beautifully. The point on the abscissa where the  $r^2$  law goes below 1, gives a nearly perfect division into optical and physical pairs.