

## Globular Cluster Formation in Galaxy Mergers

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**Abstract.** We present preliminary results of a high resolution simulation of globular cluster formation in a galaxy merger using GADGET (Springel et al. 2001). A barotropic equation of state (Li et al 2003) is implemented to include effects of cooling and heating. After one orbital period, a dozen proto-globular clusters are identified in the tidal tails.

### 1. Simulation

We simulate an equal-mass, head-on merger of two identical disk galaxies moving on parabolic orbits. Each galaxy has a dark matter halo, a stellar disk, and a gas disk (Springel 2000). The mass of the galaxy is  $M_{200} = 3 \times 10^{10} M_{\odot}$ , of which gas is 10%. The total particle number is  $N_{tot} = 1.4 \times 10^5$ , the mass resolution is  $2.3 \times 10^6 M_{\odot}$ , and the spatial resolution is 1 pc.

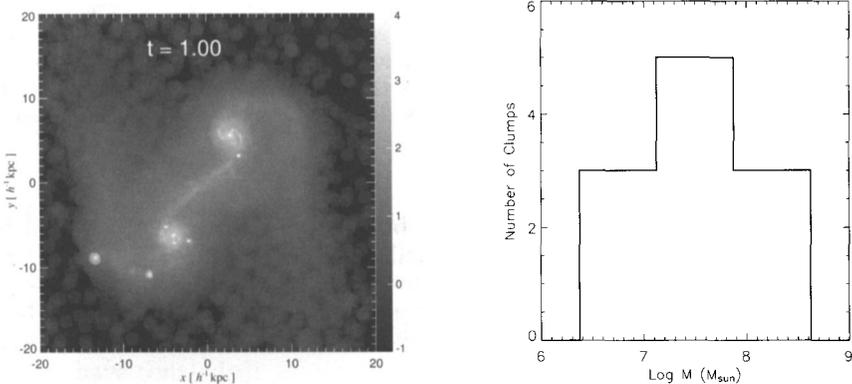


Figure 1. Proto-globular clusters identified in tidal tails and bridges, and their mass histogram derived with a clump-finding algorithm.

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### References

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