of low mass stars through the tidal boundary. One signature of highly evolved cluster is thus a significant flattening of the mass function. The age measured by the half-mass relaxation time increases very rapidly from a characteristic value of ~ 100 at the final stage of disruption. This appears to be consistent with the sharp cut off near 10^8 yr in the distribution of the half-mass relaxation times for the Galactic globular clusters. We also consider the evolution of clusters containing massive dark remnants (i.e., white dwarfs or neutron stars). The efficient formation of three-body binaries among the degenerates and the relative flattening of the luminosity profile compared to the density profile, lead to postcollapse models with a sufficiently low concentration that the core may be resolvable.

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Velocity Distribution of Dark Matter Galactic Halos

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We investigate the response of nondissipative dark matter galactic halos during the dissipational collapse of the baryonic matter in spiral galaxy formation, focusing on the velocity distribution of the dark matter in the disk of a galaxy like the Milky Way at the solar radius. We use N-body simulations with the total mass and z-component of angular momentum conserved. The initial distribution of dark matter and baryonic particles is a homogeneous mixture based on a King model. Then we force the baryonic matter to contract, forming the final luminous components of the galaxy, namely the disk and, in some cases, a bulge and central point. Both slow and fast growth of the luminous components are considered. Relatively flat rotation curves are easily obtained for reasonable values of the free parameters. The velocity distribution of dark matter particles in a reference frame rotating slowly about the galaxy center in the plane of the disk is similar to a Maxwellian, but it is somewhat boxier, being flatter at the peak and truncated in the tails of the distribution. We tabulate parameters for the best-fitting Maxwellian and modified-Maxwellian distributions. There is no significant difference between slow collapse and fast collapse for all these results. We were unable to detect any effect of disk formation on the z-dependence of the dark matter density distribution.

CO Observations of B133 and B134

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With the 14 m radio telescope at DRAO and 4 m at Nagoya University, we have made detailed maps of ^{12}CO and ^{13}CO emissions from two Barnard objects B 133 and B 134. Usual LTE analyses are