

CAN PROFILES FROM N -BODY SIMULATIONS EXPLAIN STRUCTURES DOWN TO GLOBULAR CLUSTER SCALES? *

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We find that the most commonly used profile predicted by N -body simulations, the NFW profile, cannot be used to describe the density distribution of globular clusters. Instead we propose a general profile with flat core and variable inner power law index that is derived from a basic equation that arises from numerical modeling of gravitational collapse. For an inner power law index of $2 \leq \alpha \leq 4$ centred around $\alpha \approx 3$ most of the globular clusters from the Harris catalogue are in agreement with the theoretically predicted parameter space. This is significantly steeper than the density profiles of galaxies and galactic haloes which usually have inner power law indices in the range $1 \leq \alpha \leq 1.5$.

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