

R66a A capture scenario for the globular cluster ω Centauri

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We explore an accretion origin for *omega* Cen by N-body modeling of the orbital decay and disruption of a Milky Way dwarf satellite. This work is focused on studying a particular satellite model that aims to reproduce the present orbit of *omega* Cen, as recently determined from absolute proper motions. The model satellite is launched from 58 kpc from the Galactic center, on a radial low-inclination orbit. We find that a capture scenario can produce an *omega* Cen-like object with the current low-energy orbit of the cluster. Our best model is a nucleated dwarf galaxy with a Hernquist density profile that has a mass of $8 \times 10^9 M_{\odot}$ and a half-mass radius of 1.4 kpc.