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Black holes and neutron stars in globular clusters

I will present an overview of the dynamics of globular clusters -- groups of millions of stars contained within a region a few light years across. In these clusters collisions between stars can take place, and other effects of close dynamical interactions are quite common. I will start with an overview based on simple thermodynamics-based treatments of star cluster evolution, and then discuss some of the general trends from this approach, as well as what changes with a more sophisticated treatment. I will then discuss the work that led to a theoretical view that globular clusters would not contain black holes, and the observational evidence that they do, in fact, contain black holes. I will close by discussing the implications of the discoveries of black holes in globular clusters for gravitational wave source production, star cluster evolution, and theories of higher dimensionality in physics.

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