collapsing, the disk approaches LT solutions and stabilizes at Compton temperature.

An Upper Limit to the Electrodynamic Power Output From an Accretion Disk around a Black Hole

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We examine the electrodynamic power output from an accretion disk surrounding a Kerr black hole. We derive an upper limit for the total power. We find that this limit is only moderately sensitive to most of the relativistic correction factors. In fact, this limit is less sensitive to the change in the black hole spin than one would expect from the change in the inner radius of the accretion disk. The disk around a rapidly rotating black hole will produce more nonthermal radiation than a similar disk around a slowly rotating black hole of identical mass, but the difference is only a factor of ~ 1.7.

Globular Clusters in Dwarf Galaxies and the Formation of Nucleated Dwarf Galaxies

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We try to examine dynamical reasons which could lead formation of nucleated dwarfs and non-nucleated dwarfs. We focus on the fact that many dwarf spheroidals have globular clusters. Despite that dynamical friction is important and effective for globular clusters' orbital decay in dwarf spheroidal galaxy, the outcome of dynamical evolution may depend on the differences between the internal velocity dispersion of the clusters and that of the host galaxies. As the clusters sink to the center of a host galaxy, they eventually interact with each other. The recoil velocity of cluster-cluster scattering may be comparable to the internal velocity dispersion of the clusters. If the recoil velocity is large compared with the velocity dispersion of the host galaxy, the clusters may be slingshot out of the core as in the case of Fornax. If the recoil velocity velocity is small compared with the velocity dispersion of the host galaxy, the cluster remains in the center of the host galaxy. Repeated encounters provide opportunities for the clusters to eventually coagulated. In order to study this dynamical process, we adopt a restricted N-body numerical scheme based on Aarseth's NBODY1 scheme. Although we adopt a point mass potential for the field stars, the gravitational potential parameter. Out preliminaryresults suggest that