Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Critical Collapse of Perfect Fluids with Angular Momentum THOMAS BAUMGARTE, Bowdoin College, CARSTEN GUNDLACH, University of Southampton — We study critical phenomena in the gravitational collapse of rotating perfect fluids. We perform numerical simulations and observe critical scaling in both supercritical evolutions, which lead to the formation of a black hole, and subcritical evolutions, in which case the fluid disperses to infinity and leaves behind flat space. We also develop a theoretical model of mass and angular momentum scaling for critical collapse with rotation, and compare the predictions of this model with the numerical data.

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Date submitted: 27 Sep 2016 Electronic form version 1.4