

Physics Colloquium
Monday October 3rd, 2005 4:15 PM
428 Pupin Hall
Professor Greg Bryan
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“The First Stars in the Universe”

Current cosmological models predict that the first objects to form in the universe are also the smallest. In this talk, I will discuss our understanding of the formation of the very first generation of stars. These objects, which form out of a nearly pure Hydrogen and Helium gas, ended the preceding "dark ages" and may play an important role in reionizing the universe. Remarkably, their formation is easier to understand than present day star formation both because the initial conditions are well-prescribed and the relevant physical processes are relatively simple. Nevertheless, the range of scales is very large (from cosmological scales down to the radius of the sun) and requires new techniques in computational physics. I will show the results from high-resolution numerical simulations and describe both the new insights that comes from such work and also the implications.

