

Abstract Submitted  
for the APR12 Meeting of  
The American Physical Society

**The First Billion Years: From the First Stars to the First Galaxies**

JOHN WISE, Georgia Institute of Technology, MATTHEW TURK, Columbia University, MICHAEL NORMAN, University of California, San Diego, TOM ABEL, Stanford University, BRITTON SMITH, Michigan State University — The first stars in the universe are thought to be massive, forming in dark matter halos with masses around  $10^6$  solar masses. Recent simulations suggest that these metal-free (Population III) stars may form in binary or multiple systems. Because of their high stellar masses and small host halos, their feedback ionizes the surrounding 3 kpc and drives the majority of the gas from the potential well. The next generation of stars then must form in this gas-poor environment, creating the first galaxies that produce the majority of ionizing radiation during cosmic reionization. I will review the latest developments in the field of Population III star formation and feedback and its impact on galaxy formation prior to reionization. In particular, I will focus on the numerical simulations that have demonstrated this sequence of events, ultimately leading to cosmic reionization, and their connections with nearby dwarf galaxies.

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Date submitted: 06 Jan 2012

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