

THE NATURE OF THE MISSING BARYONS

Dr. Britton Smith

Michigan State University

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The missing baryons problem states that the fraction of baryons in the Universe that are easily observable drops from nearly 100% at high redshift to less than half by the current epoch. Early numerical simulations showed that a majority of these baryons exist in gaseous phase of relatively low density and moderately high temperature, known as the warm/hot intergalactic medium (WHIM). The existence of the WHIM is now relatively well accepted, but debate still continues as to its observable signatures. The nature of the WHIM is determined by the interplay between many nonlinear processes, such as the formation of large scale structure and feedback from stars and galaxies. As such, numerical simulations have led the way in understanding the missing baryons. I will present the results from a series of cutting-edge simulations designed specifically to investigate the observability of the missing baryons. This will include a discussion of how the latest simulation data compare with observations, predictions for future WHIM observables, and new analysis techniques that have shed light on how baryons are moved into the WHIM phase.

**Astrophysics
Seminar**

**All interested
persons are
cordially
invited to
attend.**