Astrophysics Seminars

Tuesday

February 13

12:30 P.M.

Rm 184 NSH

Cosmic acceleration and large scale structure

Mr. Jared Coughlin

Graduate Student, University of Notre Dame Physics

Cosmic acceleration was first discovered in the late nineties. Ever since then discovering the nature of the mechanism responsible for this acceleration has stood as one of the most prominent goals of cosmology. In this talk I present a brief overview of the observational evidence supporting the existence of cosmic acceleration and establish the need for additional, complimentary probes. I then discuss several of the most popular mechanisms that have been proposed to explain cosmic acceleration, with a particular focus put on various dark energy models. These include the cosmological constant, quintessence, and k-essence. Having established the need for additional observational constraints in order to further narrow down the list of cosmic acceleration candidates, I conclude with a discussion of the feasibility of employing the Lyman alpha forest as such a probe, highlighting my preliminary results on this question.

PHYSICS