Notre Dame Science
Department of Physics

DAMPED LYMAN ALPHA ABSORPTION SYSTEMS: NEUTRAL GAS RESERVOIRS FOR STAR FORMATION IN EARLY GALAXIES

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12:30 P.M. NSH 184

Damped Lyman-alpha absorption systems (DLAs) are gas layers that dominate the neutral-gas content of the Universe in the redshift interval z=[0,5] and serves as neutral-gas reservoirs for star formation in early galaxies. I first discuss results of our recent Keck survey for the DLAs out to z=5. I focus on evolution of metal content of the gas. I emphasize the connection between DLAs and the galactic stellar populations, in particular the galactic halo. I next discuss our recent study of the star formation efficiency of DLA neutral gas. I focus on two independent tests indicating that the efficiency of star formation in DLAs is far below that indicated by the standard Kennicutt-Schmidt (K-S) Law. Finally, I discuss DLA thermodynamics. I emphasize the importance of detecting the principal coolant of neutral gas in DLAs, i.e., the [C II] 158 micron emission line.

Astrophysics Seminar

All interested persons are cordially invited to attend.