Cosmological Evolution of Neutral Gas Mass

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Résumé

The cosmological evolution of neutral gas mass, Omega_HI, provide information on the gas reservoir for star formation and accretion phenomena on global scales. Measurements at z > 2 based on large surveys of quasar absorbers observed at optical wavelengths now provide reliable estimates of this quantity. Observations at z ∼ 0 of HI emission of galaxies at radio wavelength also offer a strong constraint on Omega_HI, with a value considerably lower than measured at high-redshifts. ASKAP, MeerKAT (and ultimately SKA) offer prospects to derive this quantity at z > 0 with direct emission detections, stacking and blind absorption techniques, thus providing important clues on the evolution of Omega_HI in a so-far little-probed time range.

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