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## Probing the Universe with Cosmic Neutral Hydrogen

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As is well known, hydrogen is the most abundant element in the Universe. Hydrogen in the low density intergalactic medium is photoionized by radiation from galaxies and other sources, while they remain in neutral form in very high density regions because of shielding. The evolution of neutral hydrogen through cosmic times passes through a number of interesting phases, namely, the dark ages, cosmic dawn, reionization and post-reionization epoch. Understanding each of these phases holds clue about the cosmology and galaxy formation in our Universe. In the talk, we will review our understanding of the physical processes related to cosmological distribution of neutral hydrogen and then present our recent results on these issues.

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