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The Primordial Deuterium Abundance: Current Status and Future Prospects

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Measurements of the abundances of the light nuclei (H, D, ^{3}He, ^{4}He, and ^{7}Li) offer precise constraints on the cosmological parameters relevant to big bang nucleosynthesis (BBN). Deuterium is of particular interest, since, at the level of cosmological relevance, it is produced only during BBN. The advent of high resolution spectrographs on telescopes both on the ground and in space has enabled the measurement of the abundance of deuterium in a number of astrophysical environments, including those which give the primordial abundance, namely the absorption line systems seen toward distant quasars. In this talk, I will discuss the current state of the deuterium abundance, with a focus given to the primordial abundance, and will discuss the future roles deuterium can play in futher constraining physics during the epoch of BBN.