“Using the HI 21 cm line to study the high-redshift Universe”

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ABSTRACT

The 21 cm line of atomic hydrogen is a powerful probe of the physical state of the Universe prior to and during the epoch of reionization. In this talk, I will introduce the main astrophysical processes responsible for determining the strength of the line and whether we see it in emission or absorption. I will also discuss the detection of high-redshift 21 cm absorption by the EDGES experiment and why it poses such a problem for our current models of the early Universe.