

# Thermal history of the Universe at intermediate redshift: progress with 21cm absorption measurements

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## Dark matter revealed by the first stars?

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The EDGES global 21-cm experiment has detected stronger absorption than expected at cosmic dawn. This absorption can be explained by invoking excess cooling of the cosmic gas induced by an interaction with dark matter. This would have far reaching consequences, including an upper limit on the mass of dark matter particles that conflicts with the expectations for WIMPs. Specific particle physics models are highly constrained, but further observations will decide. In particular, we predict that 21-cm fluctuations at cosmic dawn are likely to be much larger than previously expected, and may exhibit a specific signature of the effect of dark matter.

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