# Science opportunities with 21cm intensity mapping: disentangling dark matter and dark energy models

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**Abstract**

The nature of the most abundant components of the Universe, dark energy and dark matter, is still to be uncovered. I will tackle this subject considering the 21cm radiation, observed with the intensity mapping (IM) technique. In the first part of the talk, I will present how we can model the 21cm IM signal and compare models with observations. I'll then present competitive and realistic dark energy and dark matter scenarios (modelled with hydrodynamic and NBody simulations) and show how they produce distinctive and detectable effects on the 21cm signal, presenting forecasts for the bounds that the SKA will be able to uniquely set.

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