

## 21cm Intensity Mapping: opportunities and challenges on the road to the SKA Observatory

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Radio telescopes such as MeerKAT, and in the future the SKA Observatory, can map the spatial distribution of the post-reionization cosmic neutral hydrogen using Intensity Mapping techniques for the 21 cm line. These measurements can unveil the underlying large-scale structure of the Universe and contribute in a fundamental way to our understanding of structure growth. A key point is the subtraction of the bright foregrounds, orders of magnitude stronger than the 21cm signal. In this talk, I will briefly describe the status of MeerKLASS, an Intensity Mapping survey with the MeerKAT telescope. Moreover, I will report the results of an effort, led by the SKA Intensity Mapping Focus Group, to construct a realistic mock data cube with improved sky model and instrument characterization, and to assess through simulations the performance of foreground cleaning methods. I will discuss current limitations and the roadmap to the SKAO era.

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