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Intensity Mapping Techniques for Radio Observation

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**Abstract content (Max 300 words)
Formatting & Special chars**

Intensity mapping is a new observational technique that will allow smaller and cheaper telescopes to be used in auto-correlations and low resolution images of the sky. This technique can map the distribution of large scale HI structure without localizing individual galaxies. The aim of this research is to determine the effect of polarization on intensity mapping experiments. To achieve this, we produce polarized beams and try to corrupt these polarized beams by using OSKAR and find ways of correcting them. We then observe what comes out of these simulations in terms of foreground that have leaked from intensity polarization. We will apply this to KAT-7 and early MeerKAT data, as well as to extensive simulations of SKA1 and dense aperture arrays.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

PhD

Main supervisor (name and email)&br>and his / her institution

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