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Abstract for an Invited Paper for the NWS09 Meeting of the American Physical Society

Searching for the Epoch of Reionization with the MWA

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Highly redshifted 21 cm emission from the Epoch of Reionization (EoR) is a unique cosmological probe, and upcoming EoR radio observations could revolutionize our understanding of structure formation and the emergence of the first luminous objects. However, 21 cm EoR observations are complicated by strong foreground contamination and stringent instrumental requirements. I will review the observational signatures of the Epoch of Reionization and how the faint 21 cm emission can be extracted from the foreground signals, and describe the Murchison Widefield Array my colleagues and I are constructing in Western Australia.