

21cm Power Spectrum Lessons: Updated Results from the PAPER Experiment

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The Epoch of Reionization (EoR) represents an uncharted era in our Universe's history during which the first stars and galaxies ionized all the neutral hydrogen. Several experiments, including the Donald C. Backer Precision Array for Probing the Epoch of Reionization (PAPER), are investigating the EoR by tracing the 21cm line from neutral hydrogen, a faint signal difficult to isolate as it lies beneath bright foregrounds and systematics. In this talk I will highlight some subtle traps in a power spectrum analysis that have shaped an updated PAPER analysis, including issues related to cosmological signal loss and error bar estimation. I will also present updated PAPER results in light of our new understandings and discuss how they fit in with the experiment's previously published best upper limits.