

Introduction to Reionization

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The Epoch of Reionization (EoR) – when ultraviolet photons emitted by the first stars and galaxies transformed the intergalactic medium from mostly neutral to mostly ionized – is a primary science motivation of many current and upcoming facilities. The landscape of experiments is diverse, with some seeking a detection of the ionization field itself, and others instead going after the sources and sinks of ionizing photons. In this talk, I will briefly review the physics of reionization and the many ways in which it can in principle be constrained observationally. I will focus on the latest observational constraints and advances in theoretical modeling, and how the next generation of experiments can help fill key gaps in our current understanding of reionization, and ultimately, galaxy formation and cosmology.

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Session Classification: From the Dark Ages to Reionization with CMB-S4