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Planck and the reionization of the universe

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Planck is the third-generation satellite aimed at measuring the cosmic microwave background, a relic of the hot big bang. Planck's temperature and polarization maps of the millimeter-wave sky have constrained parameters of the standard Λ -CDM model of cosmology to incredible precision, and have provided constraints on inflation in the very early universe. Planck's all-sky survey of polarization in seven frequency bands can remove contamination from nearby Galactic emission and constrain the optical depth of the reionized Universe, giving insight into the properties of the earliest star formation. The final 2016 data release from Planck will include a refined optical depth measurement using the full sensitivity of both the High Frequency and Low Frequency instruments. I present the status of the reionization measurement and discuss future prospects for further measurements of the early Universe with the CMB from Planck and future space and suborbital platforms.