

CMB Power Spectrum Results from the South Pole Telescope

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The South Pole Telescope (SPT) is a 10-meter telescope designed to survey the millimeter-wave sky. The telescope and its 960-element bolometric camera were successfully installed at the South Pole in 2007. Since then, the SPT has imaged 2200 square degrees of the sky with low noise and arcminute resolution. I will report on the CMB power spectrum results from SPT. In conjunction with data from the WMAP satellite, the new SPT data leads to a 6 sigma detection of gravitational lensing in the CMB. The SPT+WMAP data also improve constraints on the shape of the primordial power spectrum with implications for inflationary models. Finally, the SPT+WMAP data yield measurements of the primordial helium abundance and the number of relativistic particle species in the early Universe.

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