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Dust Cleaning The Cosmic Microwave Background

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Dust Cleaning The Cosmic Microwave Background
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Cosmology big question is how the universe began, this research will contribute to finding out the answer to this. A theory that this is based on is the Big Bang theory which explains the expansion of the universe. The CMB is the cosmic microwave background which is the oldest primordial light that has been streaming through the universe since the Big Bang. It is like a fossil that will help scientists learn more about the early universe. Dust are unwanted particles floating around the universe . They get in the way of our calculations. The data used in this research is from the Actama telescope(in Chile) and the Planck's satellite. Pixell and healpy packages were used, then the reprojection of maps at 353GHz and 150 GHz, apodization, fourier transform and ultimately the calculation of the power spectrum (aka the cross-spectrum and/or the auto-spectrum) of the two maps were done. Dust will be found in order to "clean" by subtracting the frequency signals with the cmb signals. The power spectrum computations showed that dust is higher at a higher frequency and that dust dominates the cmb signal.

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