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Improving Data Filtering With Aztec Group

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Oral Presentation O2.4

IMPROVING DATA FILTERING WITH AZTEC GROUP

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As we look into the sky, we are looking into the past because light travels at finite speed. Because of this principle, we are able to look at galaxies in the early universe, which can tell us a lot about how the universe has evolved to be what it is today. The earliest structures in the universe, young galaxies, are brightest at longer wavelengths than today's galaxies. We are working with data from the AzTEC (Astronomical Thermal Emissions Camera) instrument which observes the sky at millimeter wavelengths using a telescope in the high Andes of Chile. The data processing is very important to determine what information is due to real signals in the sky and what is due to noise. We are currently working on a "data filtering" method to produce the best results and minimize the effects of noise. We will describe the fake sky simulations used to test various filters and will present our results.