

## V127a Measurements of millimeter wave optical constants of black body materials for the CMB experiments

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The next generation CMB polarization experiments require dramatic improvement of sensitivity and accuracy from ever performed CMB experiments. To realize the required performance, developments of new black body materials have been proceeded as millimeter wave absorber to prevent stray light caused by the reflection at the wall of the telescope barrel of the telescope.

We have been performing measurement of millimeter wave optical constants of the material in the laboratory of the Tohoku University to contribute the development of the high performance black body materials and to improve accuracy of the design of the optics. The measurement system is composed of Fourier Transform Spectrometer and high sensitive millimeter wave bolometers made from NTD-Ge thermistors constructed in our laboratory. In this presentation, we report the results for the black body material planed to install on the large telescope of the Simons observatory and several other examples. Current measurements are limited for room temperature and liquid nitrogen temperature. Status of the development of the optical constant measurement system at 1K is going to be reported. Status of the development of the reflectivity for the normal incident light beam will be also reported.