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# Thermal Modeling of a Millimeter Wavelength Light Detector

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Poster Presentation P5

## **THERMAL MODELING OF A MILLIMETER WAVELENGTH LIGHT DETECTOR**

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The overall goal of this research is to study the emission and absorption of millimeter-wavelength light by samples of cosmic dust analogs at astronomically interesting temperatures (5-50 Kelvin). During the first two cooldowns of a newly refurbished cryostat (refrigerator), we successfully reached an internal temperature of 4 Kelvin. We used this opportunity to obtain preliminary data on the bolometer, a millimeter-wavelength light detector. The information we obtained serves as a calibration of the bolometer and will be useful for interpreting data on cosmic dust samples which will be taken in the future. Using the acquired data, a thermal model of the bolometer was created. Using a separate data set, we were able to perform limited tests on this thermal model. Presented here is how we arrived at the bolometer thermal model and how we have tested it thus far.