

## Measurement of cryogenic spectral emissivity for blackbody material at 150K

Thermal radiation has a significant role on cryogenic system, especially in vacuum environment, such as space. Cryogenic spectral emissivity is an important parameter to evaluate the properties of radiation materials, which can improve device efficiency and safety. The accurate measurement of cryogenic spectral emissivity at vacuum condition is helpful to predict and simulate the working state of materials. In this paper, a cryogenic spectral emissivity measurement system was built cooled by a G-M cryocooler. A Fourier transform infrared spectrometer was developed used for spectrophotometry in the measurement system. Moreover, the cryogenic spectral emissivity of blackbody material was measured at 150K in the system. The black body used optical software to simulate emissivity as a reference to compare with the experimental results.

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