The Effects of Thermal Contact Resistance for the Temperature of Cold-tips of LN$_2$ Cryostat

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A liquid-nitrogen (LN$_2$) cryostat is designed for cooling astronomical CCDs of MOSAIC (Metal-Oxide-Silicon Active Integrated Circuit). A high purity copper braid is used between the cold finger and the cold plane to decrease the vibration of CCD chips. The thermal contact resistance has important effects on the temperature of CCD chips. Some mathematical expressions are presented from a simple model of the cryostat. The temperature of the cold plane is shown in different thermal contact resistance. It is also compared with the experimental results.