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STUDY ON OPTICAL REMOTE SENSOR ENVIRONMENT SIMULATION TEST OF COMPLEX THERMAL RESISTANCE MEASUREMENT TECHNOLOGY

Abstract

The optical remote sensor in environmental simulation test, the influence of temperature field of the imaging quality of optical components greatly. Optical remote sensor in the imaging process, it is easy to produce a lot of heat, which will seriously affect the imaging quality of the optical device. Thermal resistance value of a standard measurement device heat production, as much as possible to reduce the thermal resistance value, is to enhance the reliability of the device and improve the image quality, prolong its service life. Effective method for accurate measurement of thermal resistance, so it is very important. This paper mainly studies the optical thermal vacuum environment remote sensing device simulation test, the measurement of the thermal resistance of the contact surface of the solid complex. The paper put forward a micro varying transient contact model, from the analysis of contact geometry, material properties, temperature conditions, given the complex micro varying transient contact model of the measurement equation of contact thermal resistance, thermal optical components for the study on the impact of resistance to provide the experimental basis.