

Metrological and Methodical Aspects of Spectral-Energetic Calibrations of Optoelectronic ERS Equipment

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Abstract. The paper presents the results of modernization and metrological characteristics of the Kameliya measuring complex of the JSC "Russian Space Systems", as well as the methodological aspects of the spectral-energetic calibrations of the optoelectronic ERS equipment and the results of the brightness distribution study of the ribbon filament body of the TRU 1100-2350 in the operating mode. Optical circuits for measuring the spectral characteristics of the optoelectronic ERS equipment, optical elements and blocks based on the Kamelia measuring complex are presented. The carried out work provided the possibility of obtaining the relative spectral characteristics of not only multi-zone scanning devices, but also measurements of transmission and reflection spectra of optical elements (spectral filters, mirrors, lenses) and optical units of remote sensing equipment in the wavelength range $\lambda = 0,4-14 \mu\text{m}$. In addition, a method has been developed for measuring the spectral characteristics of optical radiation sources ($\lambda = 0,4-14 \mu\text{m}$) and the results of the study of the brightness distribution of the filament lamp body of the TRU 1100-2350 lamp are presented.

Keywords: metrological characteristics, calibration, multispectral scanning device, measuring complex, spectral characteristic, optical layout, spectral density of energy brightness (SDEB)