

INFLUENCE OF READING DEVICE PARAMETERS ON THE MEASURING RESULTS OF OPTICAL SIGNAL SPECTRUM

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It is investigated the influence of reading device parameters of optical spectral device based on acoustooptic tunable filter on such main metrological characteristics as resolving ability and sensitivity. The reading device consists of slit diaphragm with a photoreceiver and inertial load.

It is investigated two regimes of spectral measures: with linear frequency modulated and with stepped frequency modulated control signals. In case of linear frequency modulated control signal the influence of instantaneous frequency velocity variation is investigated on above-mentioned metrological characteristics.

The variation law of resolving ability is ap-

proximated depended on increasing of slit diaphragm wideness by various functional rows.

It is considered the influence of photoreceiver inertial properties and the load on the results of spectral measurings.

It has formulated requirements to the regime of spectral measurings taking into account the inertial properties of photoreceiver and the load of spectral device.

It is supposed the compromise choice proposition decision of slit diaphragm dimension for the determined photoreceiver model with providing of maximum resolving ability and sensitivity of spectral device