INCREASING ACCURACY AND PROVIDING RELIABILITY OF OPTOMECHANICAL DEVICES IN THE PROCESS OF MEASUREMENT OPERATION

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The paper represents the analysis of optomechanical devices in their operation process. The objective of the paper is the development of more sophisticated methods for providing the required measurement accuracy and mechanical durability of optical instruments. In the frame of metrological aspect the article examines the anti-vibration pedestal, consisting of a beam with quasi zero stiffness connected to some elastic elements. The pedestal ensures high vibration protection effect and can be used both in development and operation of the device. The adjustment of elastic hanger to actual load is done automatically. In operating the device it is also necessary to ensure its working properly under extreme conditions. For that one needs to know exactly the strength characteristics of material parts of the instruments. We, the authors, represent our new thermographic method for determination of static crack resistance characteristics of metals. Our method allows to do it with much higher accuracy together with less labour intensity.

Key words: vibration protection, measurement reliability of measuring, thermographic method, crack resistance.

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