THE TECHNIQUE OF TECHNOLOGICAL VERIFICATION OF THE IMAGE SCALE BY THE DIFFERENCES OF THE EXCEEDANCES MEASURED BY THE REFERENCE AND VERIFIABLE DIGITAL LEVELS

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To ensure the production of leveling by the "digital leveling – barcode rail" system, it is necessary to perform periodic verification annually to determine the scale of its image (the average length of a meter). Currently, this verification is performed on a stationary interference comparator. The disadvantage of this verification technique is the significant difficulty in organizing its implementation, as well as its significant cost. This is due to the fact that the number of interference comparators is extremely small. So beyond the Urals, they are located only in Novosibirsk at the Siberian State University of Geosystems and Technologies, as well as at the Institute of Metrology. If, for example, an organization located in Yakutia needs to perform verification of this system, then the entire amount of work (transportation of the system by plane, travel expenses for conducting the actual verification) will cost approximately 150–200 thousand rubles. In addition to the annual periodic verification, it is often necessary to conduct an extraordinary such verification. This is due to the fact that in the process of leveling, especially on the industrial site, accidental mechanical shocks, sometimes significant, occur on the body of the digital level, which may even lead to the need for its repair. In this case, the question arises about the preservation of the scale of the image of the system. To do this, it will be necessary to carry out its verification again on a stationary interference comparator with all organizational and financial costs. To significantly simplify the procedure of extraordinary verification, this article proposes
a technique based on the use of another high-precision digital level, which allows this verification to be performed directly at the site of leveling operations without the use of an interference comparator.

Keywords: system "digital level – barcode rail", periodic and extraordinary verification, stationary interference comparator, high-precision digital level

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