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On competitiveness control of modern thermal imaging devices in terms of range

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This article develops a method of predicting the main performance indicator, i.e. range of object recognition, of modern high-sensitivity thermal imagers operating in their usual contrast-limited mode where their efficiency is limited not by device noise but by the ultimate contrast sensitivity of the decoder's human eye. It offers a comparative analysis of existing Russian and foreign conditions and methods of full-scale thermal imager tests for recognizing a standard test object (a tank). It shows that, despite significantly different methods, the experimental estimates obtained for this performance indicator can be correctly compared with the corresponding data for foreign analogs, regardless of the test object's thermal contrast and weather conditions. The procedure of estimating the reliability of the results of thermal imager range field tests has been described; examples of implementing the obtained results have been given.

Keywords: thermal imager, recognition range, full-scale testing.

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