Abstract

Object of study: the ability to assess the performance of the Imager beyond the Nyquist frequency..

The subject of study: method of determining the average modulation with optimum phase and the minimum temperature difference perceived.

The purpose of the study: derivation of the formula for calculating the minimum temperature difference perceived.

Research objectives:

1. To consider the main characteristics of thermal based microbolometer arrays.
2. On the basis of literary analysis to find problems in assessing the performance of the thermal imager.
3. Describe the new method, which offers improvements in performance evaluation of the thermal imager.
4. To develop a method for determining the minimum temperature difference perceived.
5. Determine the optimum phase, the average modulation at the optimum phase and the minimum temperature difference perceived.
6. Investigate and analyze the results.

The method for determining the minimum temperature difference perceived. Optimum phase, the average modulation at the optimum phase and the minimum temperature difference perceived the thermal imager have been identified.

Keywords: infrared camera, Nyquist frequency, the optimum phase, the average modulation at the optimum phase, the minimum temperature difference perceived.