



Development of approaches to computer-aided design of design solutions for integrated uncooled thermal detectors of bolometric type

Key research objectives:

- Develop methods for modeling technological operations used in forming integrated thermal detectors, including methods for calibrating physical and mathematical models;
- Develop methods for modeling the functional and operational characteristics of integrated uncooled thermal detectors, including methods for calibrating models of physical processes occurring in the corresponding instrument structures;
- Perform computer simulation of the functional and operational characteristics of the selected design solutions of integrated thermal detectors;
- Investigate the influence of design and technological parameters of integrated thermal detectors on their functional and operational characteristics;
- Optimize the modes of manufacturing processes and design parameters of the solutions under study to improve their functional and operational characteristics.

Relevance of the research:

The need to improve the functional and operational characteristics of integrated uncooled thermal detectors, which have small weight and size characteristics, low energy consumption and significantly lower cost compared to cooled IR photodetectors.

Type of collaboration

research cooperation

Key words

detector, thermal,
integral, calibration

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