

Development of methods for designing and optimizing the operational characteristics of photodetector devices operating in the ultraviolet and infrared ranges and manufactured on the basis of wide-band semiconductors

Key research objectives:

- Select promising design solutions for the electronic component base of photodetector devices operating in the UV and IR ranges and manufactured on the basis of wide-band semiconductors;
- Perform configuration of methods and models of computer modeling describing physical processes in instrument structures implemented in modern software complexes of instrument-technological modeling of integrated circuits (IC);
- Perform a simulation of the operational characteristics of the instrument structures of photodetector devices operating in the UV and IR ranges and manufactured on the basis of wide-band semiconductors;
- Optimize the design and technological parameters to ensure the best operational characteristics of the instrument structures of photodetectors operating in the UV and IR ranges and manufactured on the basis of wide-band semiconductors.

Relevance of the research:

Development of design solutions for photodetectors made on the basis of wide-band semiconductors and providing simultaneous registration of UV and IR radiation with a single processing scheme and cooling system, which will significantly expand their application areas.

Type of collaboration

research cooperation

Key words

photodetector,
semiconductors, UV, IR,
circuits

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