

# ABSTRACT

## SCIENTIFIC AND PEDAGOGICAL PRACTICE REPORT

FMF STUDENT, 1 GRADE OF MASTER'S LEVEL, OF-81mp

Nesina Liliia Romanivna

**Theme:** «Using methods of infrared thermography for solar cells state control»

**Scientific leader:** Professor, Doctor of Technical Sciences,  
Kotovskiy Vitaliy Yosypovych.

**Relevance:** Infrared Thermography (IRT), aimed at improving the methods and means of controlling photovoltaic solar cells (FVSC), which is the most promising and alternative source of energy for today.

**Formulation of the problem:** The high cost of the FVSC, the lack of adequate means of controlling defects in the manufacture, as well as approaches to the creation of software and hardware that would allow the temperature distribution on the initial thermograms to assess the technical condition of objects under exploitation conditions.

**Ways to solve the problem:** Application and improvement of methods and means based on ICT, television information measuring systems and dynamic measurement of volt-ampere characteristics, which will allow to control defects at an early stage of production, which in turn is necessary for improving the efficiency of the VES and extending their service life

**Results and Conclusion:** It is revealed that at present, the most qualitative and effective method of FESB defect control is thermal control, based on the methods of infrared thermography. It is also advisable to develop new laser-thermographic control devices for the problems of thermal defectometry.