

## DEVELOPMENT OF THE CRITERION FOR THE IDENTIFICATION OF CONTRAST AGENTS IN PHOTON-COUNTING COMPUTED TOMOGRAPHY

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The identification of substances is one of the tasks in the development of a new multi-energy X-ray tomograph based on the Widepix detector. The Widepix detector is one of Medipix series detectors, which are hybrid semiconductor pixel detectors, developed by the Medipix collaboration. This detector has a high spatial resolution and is capable of detecting radiation in different energy ranges, which makes it possible to use it in photon-counting computed tomography (PCCT).

This report presents the development and the results of applying a criterion for identifying contrast agents for samples containing various concentrations of lanthanum. This criterion was investigated on the basis of energy information presented in the form of a 2D image and a reconstructed 3D tomogram. The developed criterion is also capable of estimating the concentrations of substances in samples without using the entire energy spectrum, which makes it possible to reduce the time of sample irradiation and the time of data collection.

### The speaker is a student or young scientist

Yes

### Section

1. Applications of nuclear methods in science and technology

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