The department of the scientific Ural Federal University (URFU) reported that university scientists, together with colleagues from Tyumen and Krasnoyarsk, developed a new lyuminopher based on oxyphid gadolinia. This material can replace imported analogues in medical tomographs, inspection systems and aviation equipment.

A feature of development is in the new synthesis method, which allows you to obtain smaller nanoparticles with high uniform composition. Due to this, the brightness of the glow of the material increased by more than 50% compared to existing analogues.

Luminopher demonstrates stability during prolonged work – its properties do not change under the influence of ionizing radiation. The material emits green light, which is best perceived by the human eye, but the technology allows you to create other color options.

Development is especially relevant for equipment, which requires detectors of X-ray and gamma radiation: medical scanners, customs scanners, devices for exploration of oil fields. With additional protection against moisture, the material retains its characteristics for a long time.

Now scientists are studying the behavior of a phosphor in extreme conditions to optimize it for specific applications.