

Scientists develop method to calculate transparent materials porosity

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Scientists of the Far Eastern Federal University (FEFU) have used a unique mathematical model to calculate the data of 3D images of defects in the volume of transparent functional materials. The initial set of experimental data was obtained via confocal laser scanning microscopy (CLSM) -- a special type of light optical microscopy. Credit: FEFU



Applying a new method, technologists and materials scientists will be able to quickly, accurately and nondestructively obtain information about the microstructure and functionality of transparent materials including single crystals, glasses, and ceramics. The article has been published in the *Journal of Alloys and Compounds*.

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"The functional characteristics of transparent materials (crystals, glasses, ceramics) are largely determined by their residual porosity. Thus, the laser efficiency of ceramic samples is the same as for commercial single crystals and glasses if residual pore concentration falls below

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