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Investigations of properties of opal-like photonic crystals using combined methods

Akhmadeev A., Salakhov M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We propose a technique that combines atomic force microscopy, optical spectrophotometry and diffraction method for characterization of photonic crystals. These materials are promising for the creation of various devices, as well as for the observation of new effects due to their unique properties. Photonic crystals were synthesized by self-assembly of colloidal silica particles with low deviation in size. It is shown that the developed technique allows to increase the accuracy of determining the parameters of the photonic crystal.

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