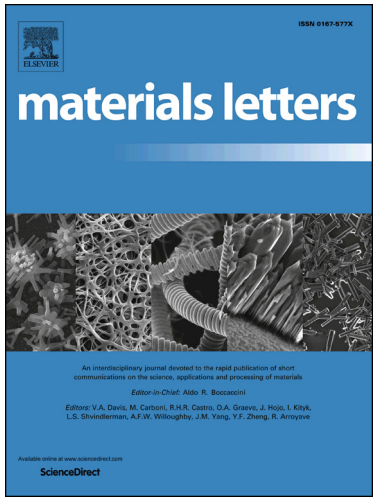

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The Synthesis and Microstructural, Optical, Magnetic Characterizations of *m*00-oriented Epitaxial $Bi_2Fe_4O_9$ Thin Film by Pulsed Laser Deposition

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Abstract

Mullite $Bi_2Fe_4O_9$ single crystal epitaxial thin film has been successfully synthesized on $SrTiO_3$ (100) substrate by pulsed laser deposition. The single crystal thin film is grown along (*m*00) orientation (*m*=2, 4) which is identified by X-ray diffraction. Morphology analysis shows orderly assigned grains with some small defects due to the volatilization of Bi_2O_3 tested by scanning electron microscope and atomic force microscopy. The chemical composition of film is confirmed by energy dispersive X-ray spectroscopy, nearly in accord with the chemical

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