

PTU-30

ROLE OF SIZE CONTROL ON THE OPTICAL SWITCHING PERFORMANCE OF  
NANOSTRUCTURED Bi:Al<sub>2</sub>O<sub>3</sub> FILMS

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The aim of this work is to study the transmission changes upon melting and solidification of nanostructured Al<sub>2</sub>O<sub>3</sub> films formed by layers of Bi nanoparticles of different sizes embedded in Al<sub>2</sub>O<sub>3</sub> films prepared by PLD. The melting and solidification temperatures increase with the size of the nanostructures, and near the percolation threshold optical transmission contrast is significantly enhanced. The use of this size effect for optical switching devices will be discussed.μ