



脉冲激光镀膜工艺制备BiFeO₃-CoFe₂O₄多铁性复合薄膜

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Multiferroic BiFeO₃-CoFe₂O₄ Composite Films Prepared by Pulsed Laser Deposition

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摘要 采用脉冲激光镀膜(PLD)工艺,在Pt(111)/Ti/SiO₂/Si衬底上制备了柱状结构0.7BiFeO₃-0.3CoFe₂O₄(BFO-CFO)多铁性复合薄膜.在薄膜的沉积过程中,通过自组装生长实现钙钛矿结构BiFeO₃和尖晶石结构CoFe₂O₄相的形成以及两相分离.探索了BFO-CFO复合薄膜的生长条件和机制,研究了薄膜厚度对BFO-CFO复合薄膜结构和性能的影响.

关键词: [多铁性复合薄膜](#) [脉冲激光工艺](#) [柱状结构](#) [自组装生长](#) [厚度](#)

Abstract: Multiferroic 0.7BiFeO₃-0.3CoFe₂O₄(BFO-CFO) composite films were prepared on the Pt(111)/Ti/SiO₂/Si substrate by the pulsed laser deposition method. In the deposition process, the perovskite BiFeO₃ and the spinel structured CoFe₂O₄ phases were formed and separated by self-assembling growth. The growth condition and mechanism of BFO-CFO composite films, and the effect of film thickness on the structure and properties of BFO-CFO films were investigated.

Keywords: [multiferroic composite films](#), [pulsed laser deposition](#), [pillar structure](#), [self-assembling growth](#), [thickness](#)

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