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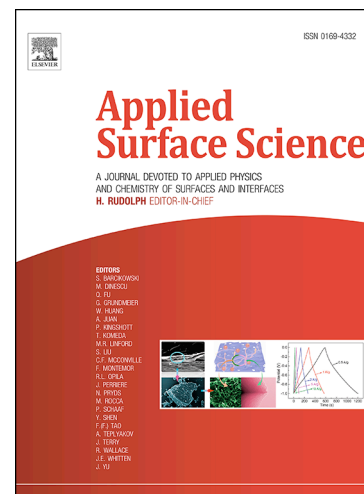
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From Stannous Oxide to Stannic Oxide Epitaxial Films Grown by Pulsed Laser**Deposition with a Metal Tin Target**

Mingkai Li¹, Lilan Zheng¹, Mi Zhang¹, Yinyin Lin¹, Lei Li¹, Yinmei Lu^{1,*}, Gang Chang¹,
Peter J. Klar², and Yunbin He^{1,*}

¹ Hubei Collaborative Innovation Center for Advanced Organic Chemical Materials, Key Laboratory of Green Preparation and Application for Functional Materials, Ministry of Education, School of Materials Science & Engineering, Hubei University, Wuhan 430062, China

² I. Physikalisches Institut, Justus-Liebig-Universität, Heinrich-Buff-Ring 16, 35392 Giessen, Germany

Abstract

Stannous oxide (SnO) and stannic oxide (SnO₂) are both important wide-band-gap semiconductors. To study the conductive mechanism in detail, high quality epitaxial films are essential. Here we propose a simple method to grow high quality epitaxial films of either stannous oxide or stannic oxide on an *r*-plane sapphire substrate by using pulsed laser deposition with a metallic tin target. The valence state of tin is controlled by tuning the oxygen pressure during the deposition procedure. Metal tin impurities and the transition phase of Sn₃O₄ are avoided and the growth windows from stannous oxide to stannic oxide are confirmed. For single-crystalline SnO epitaxial film, a rocking curve

* Corresponding authors: yinmei_lu@hubu.edu.cn (Y. M. Lu); ybhe@hubu.edu.cn (Y. B. He).

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