TiO_2-SiO_2 复合薄膜光催化活性的研究进展

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摘 要 TiO_2-SiO_2复合薄膜相对纯TiO_2薄膜更有利于提高光催化活性，针对TiO_2-SiO_2复合薄膜在提高光催化活性方面表现的优异性能，论述了其提高光催化活性的机理。根据近年来国内外TiO_2-SiO_2复合薄膜的研究现状，对溶胶一凝胶法、离子自组装成膜技术、射频磁控共溅射法、液相沉积法、化学气相法等制备方法的研究进展进行了综述，并对其优缺点进行了比较和评述。展望了TiO_2-SiO_2复合薄膜进一步研究的方向和需要解决的问题

关键词 X100 TiO_2-SiO_2 复合薄膜 光催化活性 改性机理 制备

Research on the Photocatalytic Activities of TiO_2-SiO_2 Composite Thin Films

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Abstract SiO2 composite thin films can improve the photocatalytic activities easily compared with TiO_2 thin films.According to the good property on the photocatalytic activities of TiO_2-SiO_2 composite thin films, the mechanism of improving photocatalytic activities is described. Based on the current study state of TiO_2-SiO_2 composite thin films，the preparation methods of TiO_2-SiO_2 composite thin films including sol-gel, ionic self-assembly(ISA), RF magnetron co-sputtering, liquid phase deposition sputtering, chemical vapor deposition(CVD) were reviewed. The advantages and disadvantages of different methods were briefly described. And the future research direction and some question of TiO_2-SiO_2 composite thin films are prospected.

Keywords TiO_2-SiO_2, composite thin films, photocatalytic activities, mechanism of modification, preparation

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