

Porous Silicon: A Buffer Layer for PbS Heteroepitaxy

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Abstract. In the present work, we report on the heteroepitaxial growth of PbS on porous silicon (PS). Epitaxial PbS films were grown by MBE on the surface of PS formed on the n+-type silicon (111) substrate. The films were comparable with films grown on BaF₂ substrates. Beneficial

influence of a PS buffer layer on the structure and properties of PbS epitaxial films was supported by implementation of sensitive Schottky-barrier photodiodes fabricated in these films.

Keywords: porous silicon, epitaxial PbS, Schottky-barrier.

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