**X-ray diffractometry of Si epilayers grown on porous silicon**

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**Abstract.** X-ray double-crystal diffractometry was used to measure lattice deformation of porous silicon (PS) and Si epitaxial layers grown on PS. PS layers 1–10 μm in thickness and 15-65% in porosity were formed by anodization of n+-type Sb doped Si wafers in a 12% HF aqueous solution. Lattice deformations of both PS and epitaxial layers are shown to strongly depend on PS porosity. Grown on uniform PS 40–60% in porosity, the epilayers, single-crystal as they are, display high lattice deformation and defect density. Epilayers grown on two-layer PS are comparable with the films grown on the n+-type single-crystal Si substrate.

**Keywords:** Porous silicon; Epilayer; X-ray diffractometry; Lattice deformation.

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