

论文

硅单晶中层错与氢的交互作用

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摘要: 利用阴极充氢法, 向硅单晶表面注入氢离子, 用化学浸蚀法观察晶体表面氢与层错间的相互作用层错, 特别是Frank半位错在硅单晶表面的露头处是原子氢的择优聚集区, 原子氢化合成分子氢后能诱发大的晶格畸变利用化学浸蚀法, 观察到了氢与层错的相互作用

关键词: 硅单晶 氢 层错 晶格畸变

THE INTERACTION BETWEEN STACKING FAULT AND HYDROGEN IN SINGLE CRYSTAL SILICON

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Abstract: Hydrogen on the surface of single crystal silicon has been introduced by cathodic charging. The interaction between stacking fault and hydrogen on the surface of the sample has been researched by means of chemical etching. Atomic hydrogen will segregate at outcrops of the stacking fault and particularly Frank dislocation on the surface of single crystal silicon and compound into molecule hydrogen at the outcrops. The distortion zone induced by hydrogen pressure, which can be detected as etching pit after etching, is preferably located at the outcrops of Frank dislocation.

Keywords: single crystal silicon hydrogen stacking fault lattice distortion

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