

INFLUENCE OF THE STRUCTURE TYPE ON THE GRAIN-BOUNDARY ENERGY OF SILICON FILMS

The relative grain-boundary energy of silicon films with equiaxed, dendritic and fibrous structure was determined by the method of grain boundary grooves with the use of atomic force microscopy. It was shown that undoped films with a dendritic structure possess the lowest relative grain-boundary energy; the largest relative energy was observed in fibrous structure. Annealing leads to the structure relaxation in phosphorus-doped dendritic silicon films.

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