

Title (en)
SURFACE PLANARIZATION OF THIN SILICON FILMS DURING AND AFTER PROCESSING BY THE SEQUENTIAL LATERAL SOLIDIFICATION METHOD

Title (de)
OBERFLÄCHENPASSIVIERUNG VON DÜNNEN SILIZIUM-FILMEN WÄHREND UND NACH VERARBEITUNGSSCHRITTEN BEI DER SEQUENTIELLEN LATERALEN KRISTALLISATION

Title (fr)
PLANARISATION DE SURFACE DE MINCES COUCHES DE SILICIUM, PENDANT ET APRES TRAITEMENT AU MOYEN D'UN PROCEDE DE SOLIDIFICATION LATERALE SEQUENTIELLE

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Application
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US 0007479 W 20000321

Abstract (en)
[origin: WO0171791A1] Systems and methods for reducing a surface roughness of a polycrystalline or single crystal thin film produced by the sequential lateral solidification process are disclosed. In one arrangement, the system includes an excimer laser (110) for generating a plurality of excimer laser pulses of a predetermined fluence, an energy density modulator (120) for controllably modulating the fluence of the excimer laser pulses such that the fluence is below that which is required to completely melt the thin film, a beam homogenizer (144) for homogenizing modulated laser pulses in a predetermined plane, a sample stage (170) for receiving homogenized laser pulses to effect melting of portions of the polycrystalline or single crystal thin film corresponding to the laser pulses, translating means for controllably translating a relative position of the sample stage (170) with respect to the laser pulses, and a computer (110) for coordinating the excimer pulse generation and fluence modulation with the relative positions of the sample stage (170) to thereby process the polycrystalline or single crystal thin film by sequential translation of the sample stage (170) relative to the laser pulses.

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