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LASER ASSISTED CVD SEMICONDUCTOR FILMS

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ABSTRACT

The paper reports the theoretical and experimental approches for laser assisted CVD semiconductor films such as Si and GaAs. In contrast with previous works, a special experiment design was used to separate the optical and thermal effects of laser. Experimental results have shown that the deposition activation energy is lowered under the irradiation of cw IR or UV laser, so that the deposition rate increases by a factor which is associated with the laser frequency and the substrate temperature. Also, the technology for depositing high quality films and for LCVD in large area are discussed.

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