

# **Influence of power and speed laser parameters in laser doping selective phosphorus emitter**

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## **ABSTRACT**

The choice of laser parameters for a laser doping process with 1064nm is investigated. Solid state lasers with different power and speed were used for laser doping. In this work, the aim is the formation of selective emitter solar cells (figure1) with a reduced number of technological steps. A doping laser 1064nm is used to obtain highly doped regions that will receive the screen printed silver grid. Therefore, we designed using solidworks software a single type of pattern for square cells. Sheet resistances and silicon bulk lifetimes of irradiated samples are presented. Additionally, secondary ion mass spectroscopy (SIMS) profiles of the laser processed samples were acquired. Scanning electron microscope and optical microscope images of laser processed surfaces at different parameters are shown and compared.

**Keywords:** Laser Processing, Laser Doping, Selective Emitter