



# PROBLEMS IN MODELLING SURFACE MELTING BY LASER

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**PROBLEMS IN MODELLING SURFACE MELTING BY LASER**

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By melting metal surfaces using cw lasers can be performed interesting treatment as surface alloying and rapid resolidification. However the optimization of resulting microstructures ask for carefully defined treatment parameters derived from the modelling of thermal transients.

Very refined thermal models have been already developed, but main problems arising in applications are concerning values of absorbed power, often assumed as a constant, but really varying during the heating of the surface and after the transition from solid to liquid.

Comparision beteween experimental and calculated data are presented, using thermal models and variable heat flux.