

# Development of a Laser Cladding Process Model

F. Wirth<sup>1</sup>, K. Wegener<sup>1</sup>

<sup>1</sup>IWF, ETH Zürich, Switzerland

## Abstract

Additive manufacturing is attracting more and more interest. Laser Cladding is one of these additive manufacturing processes. As it is a blown powder process, here a laser beam creates a melt pool, into which powder is blown and molten. Thereby a layer can be produced track by track and a volume part is built layer by layer. For this a physical based 3D process model is presented, which has been developed taking into account heat transfer, melt pool fluid flow and free surface movement. Thereby the resulting surface contour of the process can be simulated.