A´Quilaco

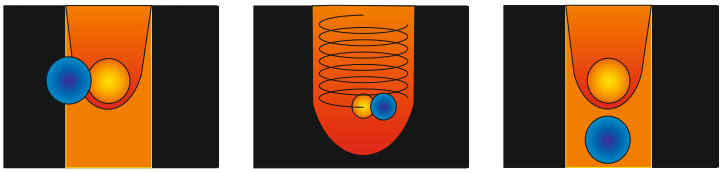
Advanced online quality and process control for high speed laser machining of composites

Project goal

Within the frame of the project a high speed pyrometer based temperature detection for the laser treatment of CFRP will be developed for a quality and process control. Therefore, a pyrometer will be engineered, which meets the demands of the fast laser process (high temporal resolution) and of the material characteristics (adapted spectral sensitivity).

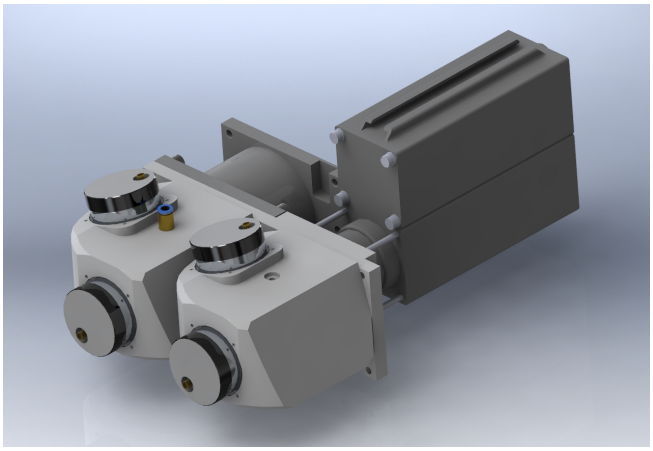
Furthermore, a combined scanning head will be developed, which allows for the first time to generate different positions of the pyrometer spot to the laser spot during the laser process, providing detailed information with respect to the resulting temperature distribution inside and around the interaction zone. This will significantly enhance the possibilities for online temperature detection as prerequisite for controlled laser processing of CFRP.

Contour laser processes



Quasi-simultaneous laser processes

Advisory board



Combined scanning head „RhothorTwin Head Pyro“ for a real time temperature detection during laser processing of CFRP

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