



**Photocatalytically active coatings for energy efficient water treatment in model-based reactors**

Major tasks of this joint project are the development and improvement of TiO<sub>2</sub> photocatalysts immobilized on ceramic substrates. Different coating technologies, such as thermochemical suspension plasma spraying, atmospheric plasma spraying, sol-gel or physical vapour deposition, were applied and compared regarding photocatalytic activity and coating layer stability. Part of this project was also the scale-up from a model-based laboratory scale reactor type with front-side illumination to pilot plant scale, as well as the development of a solar photocatalytic reactor type.



Figure: Experimental setup for photocatalyst testing



Figure: Samples with methylene blue solutions before (right side) and after (left side) photocatalytic treatment

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Contact:
Dipl.-Ing. Nikolai Otto Dr.-Ing. Uwe Menzel
Project partner:
Institute for Manufacturing Technologies of Ceramic Components and Composites (IFKB), University of Stuttgart, Leiblein GmbH
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