Poster-Session

Development of coatings and image processing for quality assurance for metallic bipolar plates

Teja Roch[1], Maurizio Giorgio[1], Maximilian Steinhorst[1,2], Peter Hartmann[1,3], Christoph Leyens[1,2]

[1]Fraunhofer Institute for Material and Beam Technology IWS, Dresden; [2]Technische Universität Dresden - Institute of Materials Science, Dresden; [3]Westsächsische Hochschule Zwickau, Zwickau

teja.roch@iws.fraunhofer.de

Optimized coating and quality assurance solutions are increasingly in demand for hydrogen applications such as fuel cells or electrolysis systems. Especially in the area of surface technology, high-speed continuous processes with integrated inline process control and intelligent data processing can offer significant advantages. However, on the one hand, optimized technologies and processes as well as coatings with suitable properties have to be developed. On the other hand, learning intelligent data evaluation is a complex, laborious task and poses several challenges. For this, suitable hardware requirements for high quality data as well as appropriate data volumes and physically motivated (e.g. digital twins) models have to be created. The Fraunhofer IWS and the West Saxon University of Applied Sciences Zwickau are developing appropriate solutions for this task.