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Fraunhofer-Institut für Lasertechnik ILT
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11.01.2019
http://idw-online.de/de/news708759

Forschungs- / Wissenstransfer, Wissenschaftliche Tagungen
Maschinenbau, Verkehr / Transport, Werkstoffwissenschaften
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Laser Symposium on Electromobility in Aachen

On February 20, 2019 in Aachen, the practical applications will be the focus of the first Laser Symposium on Electromobility (LSE 2019): The Fraunhofer Institute for Laser Technology ILT invites you to ten lectures with experts from industry and research, who will present new laser-based production methods for the production of battery modules and packs.

Electric-powered vehicles are still rare, but the trend is unstoppable: Electric cars are well on their way to conquering the mass automobile market. Naturally, this trend also affects the demand for battery modules and packs. And that's reason enough for Fraunhofer ILT to organize a laser symposium on electromobility in Aachen, Germany, for the first time, one that focuses on highly efficient laser processes for the entire process chain.

Practically oriented presentations from the industry

While research will also have its say at the symposium, the focus will be on industrial praxis. "The lecture program is characterized by its industrial depth, which will be complemented by three lectures from the institute", says André Häusler, team leader for the microjoining of metallic materials at Fraunhofer ILT. "In addition, we will enter into an open plenary session with the industry representatives at the end of the symposium: There they will discuss the wishes and research needs of the battery and laser manufacturers".

The kick-off will be given by Prof. Martin Schneider-Ramelow from the Fraunhofer Institute for Reliability and Microintegration IZM in Berlin: The globally recognized specialist in the field of quality and reliability of wire bonds will discuss how electromobility influences power electronics. The nine following lectures highlight both novel beam sources for use in electromobility (TRUMPF Laser and System Technology) and laser use in the production of power electronics and batteries (KUKA Industries, EAS Batteries, FEV and Fraunhofer ILT). Fraunhofer ILT will also be presenting a newly developed laser process for removing layers in solid state batteries, a process that does not generate a short circuit.

What requirements do battery manufacturers have for laser welding?

From BMZ Batterien-Montage-Zentrum GmbH in Karlstein, Europe's leading producer of lithium-ion batteries, Dr. David Flaschenträger will also present exciting results. The Head of E-Mobility Projects will describe the requirements and expectations a user has for laser welding.

Gaining ground: laser beam micro welding without additional materials

This lecture will point to an important aspect how electromobility can be better put into practice – the sometimes neglected joining technology. As an answer, Fraunhofer ILT will be presenting laser beam micro welding that does without using filler materials at LSE 2019; the process can reliably and efficiently combine battery cells to form efficient

energy storage devices. “The topics covered will include the thermal control of the joining process, the appropriate design and the suitable packing density or the design of the electrical connection technology”, explains Häusler. “In addition, we also address the role of process monitoring in the context of Industrie 4.0, which can be used to control the perfect electrical connection of the cells and the stability of the processes. These are important issues around electromobility that we would like to solve together with industry”.

The lectures will be held in German.

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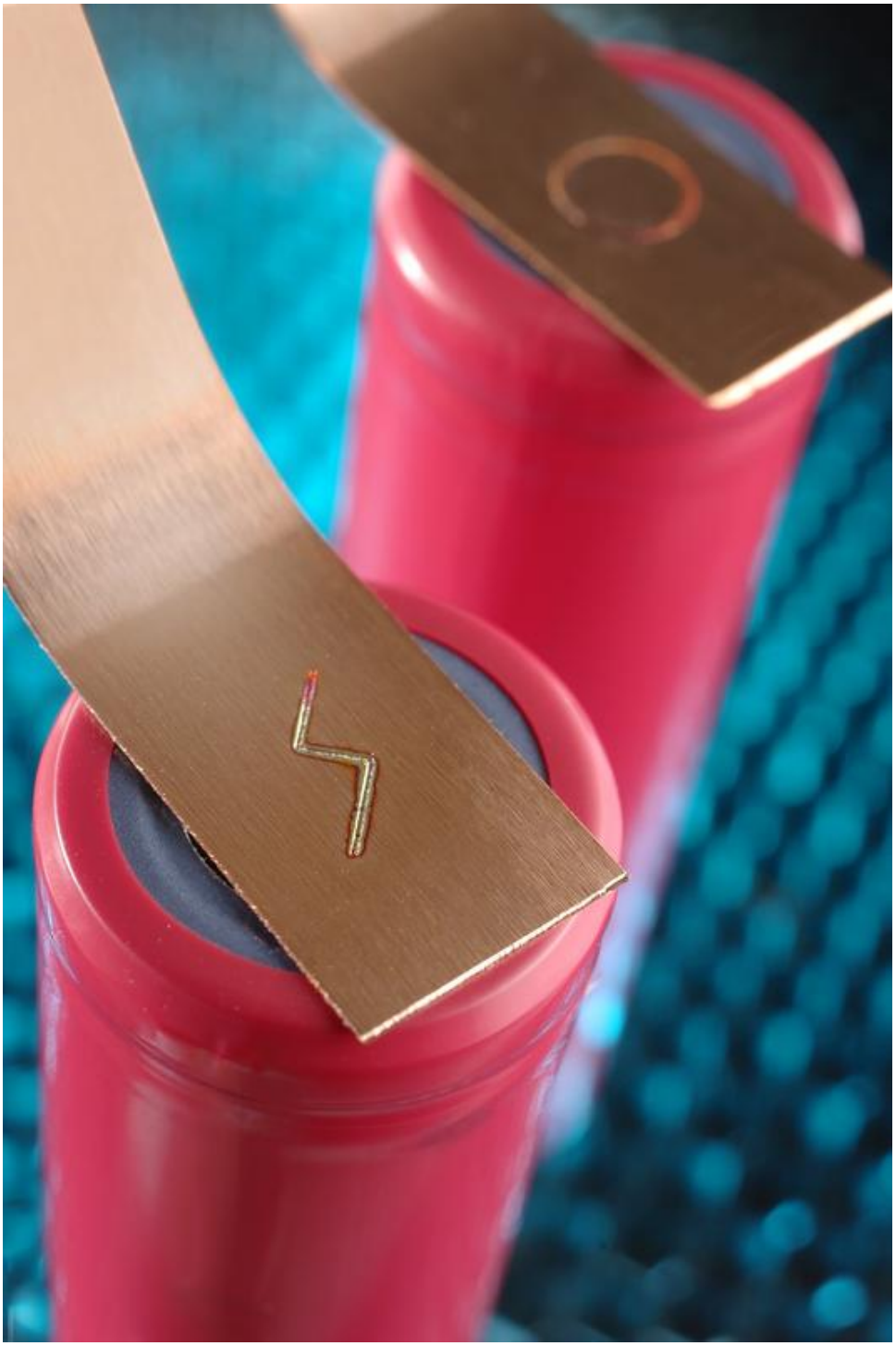

Laser-Based Tape-Automated Bonding (LaserTAB) for the welding of battery cells.
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