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PHOTONIK SEMINAR

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Terahertz spectroscopy for quality control of printed electronics

Nowadays, printed electronics (PE) is a \$40 billion global industry with an expected growth of 30% over the next five years. Research in this field is very active in terms of developing new materials for the production of functional devices. However, quality control has not yet been developed. Meanwhile, THz spectroscopy is very well known in the academic community but is still not widely used in a non-laboratory environment. To be able to follow the geometrical variations of printed devices or to control the variations of speed of industrial production as well as the variation of conductivity according to the variation of sintering parameters, the capabilities of THz spectroscopy was used.

To initiate the interaction of THz light and printed surface, we used metasurfaces, which contain printing information and can assist in the in-line quality control of PE. To the best of our knowledge, this was the first demonstration of the use of metasurfaces for nondestructive quality control of printed devices using THz light with the further implementation of the THz spectroscopy in real industry.

Thursday, 23rd February 2023, 14:00h

Seminarraum 387 (CBEG02) - Institut für Photonik
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