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ABSTRACT
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Philipp Daniel Hirsch works for the Federal Institute for Materials Research and Testing (BAM) in Berlin, Germany.

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ROBOTIC-ASSISTED 3D SCANNING AND LASER THERMOGRAPHY FOR CRACK INSPECTION ON COMPLEX COMPONENTS

The integration of automation and robotics into inspection processes has marked a transformative shift in the evaluation of complex components. This study presents a novel approach employing robotic-assisted laser thermography for the automated identification and in-depth analysis of cracks in these intricate structures. This method not only streamlines the inspection process but also eliminates the need for numerous manual steps and the use of chemicals associated with traditional methods such as dye penetrant testing. With the increasing com-plexity of components, this is an important step, especially with regard to additively manufactured components, in order to be able to guarantee component safety for a long lifecycle.