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Machine vision techniques for composite part inspection

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Abstract

Machine vision has become an invaluable tool for component inspection for many years now, with bespoke solutions for 2D and 3D analysis of parts. However, a suitable solution for the case of composites has largely eluded the industry due to the complicated reflectance properties of such surfaces. Recently however, advances in polarisation imaging technology have enabled methods for obtaining detailed maps of fibre tows, allowing for the detection of a multitude of common defects in carbon fibre reinforced polymer parts. This webinar starts with a basic introduction to the field of machine vision and its application to industrial inspection, before a detailed discussion of the speaker's involvement in the development of polarisation imaging technology. The talk then covers latest research and future directions.