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Innovative Eddy Current Probes Characterization Of Micro Defects

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Abstract : In this paper, we designed Eddy Current probes based on two different technologies, depending on the application. The first one is based on traditional probes based on classical winding coils, the second one takes advantage of the small size and high sensitivity of micro-coils etched on a flexible kapton film. Those probes are very efficient in the detection of defects located in complex geometries or in small curvature radius components. The simulation also provides the ability to compare upstream performance of a new probe relative to a conventional sensor and thus guide the choice of investment in innovative technology.

Keywords : Eddy curren, Defect characterization, Finite Element Method, micro coil, arrayed eddy current sensor