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TITLE: AIRCRAFT ENGINE FAN BLADE INSPECTION BY MEANS OF UT PHASED ARRAY AND EDDY CURRENT ARRAY

ABSTRACTS

In order to improve the NDT inspection of civil aircraft engines fan blades, Safran Aircraft Engines has decided to develop with Olympus on field and in shop two complementary methods: Eddy Current Array and Phased Array Ultrasound.

These methods are due to be implemented at regular intervals and/or number of cycles. While Phased Array inspection is being done more often, on the wing, the Eddy Current Array shall be performed in the maintenance workshop following blade preparation.

This paper describes the method and the tools specifically developed for this application. Data sets will be presented that confirm the well known advantages of multi-element techniques over the single element ones.

Imaging of the results and real-time coupling check reduces the human factor influence, volume and surface coverage with the use of multi-group technology improves the inspection, electronic focalization increases the sensitivity while data storage and availability, speed of inspection and repeatability make the described method particularly interesting.

The paper finally shows that the use of dedicated Phased Array and EC Array probes and setups can bring clear advantages for the operator in term of time and ease of use.

KEYWORDS

UT-phased-array EC-array human-factor engine-fan-blade |