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Novel insight into swept frequency eddy-current non-destructive evaluation of material defects

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***Abstract* — Swept frequency eddy-current non-destructive evaluation of defects is concerned in this paper. Possibility of evaluation of detected crack dimensions from response signals is experimentally studied. Two plate specimens having electro-discharge machined slits of various dimensions are inspected using an eddy-current probe. The probe is fixed at a certain position above a specimen during entire inspection of one slit. Frequency of the exciting signal is changed in a wide range in order to acquire frequency response characteristics. The frequency range is adjusted in such a way that the electrical resonance is clearly visible from the acquired characteristics. The characteristics are further processed for exploring their variations in respect to size of inspected slits. Presented results clearly show that the**

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