

INSPECTION METHOD AND SYSTEM USING MULTIFREQUENCY PHASE ANALYSIS

ABSTRACT

A method for inspecting a part is provided. The method includes applying a number of multifrequency excitation signals to a probe (12) to generate a number of multifrequency response signals for the part (18) being inspected. The method further includes performing a multifrequency phase analysis on the multifrequency response signals to inspect a subsurface of the part (18). An inspection system (10) is provided and includes an eddy current (EC) probe (12) configured to induce eddy currents in a part (18). The system (10) further includes an eddy current instrument (14) coupled to the EC probe (12) and configured to apply multifrequency excitation signals to the EC probe (12) to generate multifrequency response signals. The system (10) further includes a processor (16) configured to analyze the multifrequency response signals from the EC instrument (14) by performing a multifrequency phase analysis, to inspect a subsurface of the part (18).

Fig. 1