

ABSTRACT

In this research, a novel eddy current sensor has been developed using direct interfacing technique for measuring the thickness of ferromagnetic sheets. The pulsed eddy current based measurements of materials is an effective method in the field of non-destructive evaluation and testing. Different experiments have been considered for the sake of finding the most suitable parameters for the probe in order to test the maximum thickness. These includes number of turns of coils, probe diameter and physical dimensions of the inductors. So, the optimization and performance has been analyzed with the help of change in number of turns, probe diameter and size of the inductors. The experimental results revealed that the maximum thickness range i.e. 8.4 mm for ferromagnetic sheets is achieved by 36.2mH using resistance of 80ohms at the cost < 1 % full scale span (%FSS).