# Identification parameters with neural network for Preisach hysteresis model

**Mounir AMIR, Mourad ZERGOUG, A. AMROUCHE**

**Abstract :** The description of hysteresis is one of the classical problems in magnetic materials. The progress in its solution determines the reliability of modeling and the quality of design of a wide range of devices, the proposed approach has been applied to model the behavior of many samples and the results show the robustness and efficiency of Neural Network to model the phenomenon of hysteresis loop. The goal of this study is to optimize the parameters of hysteresis Loop by Preisach model with the Neural Network, the method developed is based on an analysis of two distribution functions. The modified Lorentzian function and Gaussian function have been analyzed. The implemented software and performances of the distributions are presented.

**Keywords :** Gaussian Distribution, Hysteresis Loop, Lorentzian Distribution, Neural Network, Preisach Model