

Numerical characterization of dynamic hysteresis loops and losses in soft magnetic materials

E. Cardelli; R. Giannetti; B. Tellini

Abstract-

This paper deals with the characterization of dynamic loops shapes and losses in soft magnetic materials. An experimental and theoretical analysis has been done in order to describe static and dynamic hysteresis on soft ferrite cores. A parallelogram-loop-based hysteresis modeling is described and discussed. The possibility of the model to include vector hysteresis and the related properties are then discussed, with particular attention to the case of a rotating magnetic field into an isotropic and anisotropic medium.

Index Terms- Dynamic modeling, magnetic hysteresis, soft materials, vector modeling.

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