

# Low frequency core losses components of FeNiMo powder compacted materials

D. Olekšáková,<sup>1</sup> P. Kollár,<sup>2</sup> and J. Füzér<sup>2</sup>

<sup>1</sup>*Faculty of Mechanical Engineering,  
Technical University in Košice, Letná 9, 042 00 Košice, Slovakia*

<sup>2</sup>*Institute of Physics, Faculty of Science, P. J. Šafárik University,  
Park Angelinum 9, 04154 Košice, Slovakia*

The aim of this work was to investigate dc and low frequency ac magnetic properties of the bulk FeNiMo samples prepared by a hot compaction of the powder with two particle size. The Fe<sub>16</sub>Ni<sub>79</sub>Mo<sub>5</sub> (wt. %) swarfs were prepared from the ingot of the same chemical composition and then milled using a RETSCH PM4000 planetary ball mill for 1 hour and for 100 hours.

The relations of core losses with the frequency as well as with the maximum induction of FeNiMo alloys were investigated. The usual three-component concept of separation of core losses, consisting of hysteresis, eddy current and anomalous losses, was used to explain the influence of the powder particle size on core loss frequency dependences.

*This work was realized within the frame of the project ITMS 26220120035 supported by Operational Program “Research and Development” financed through European Regional Development Fund and also by the Slovak Research and Development Agency under contract No. APVV-15-0115.*