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Dynamic magnetic characteristics and relaxation of $\text{Fe}_{73.5}\text{Cu}_1\text{Nb}_3\text{Si}_{15.5}\text{B}_7$ nanocrystalline alloy under operating temperature and magnetizing frequency

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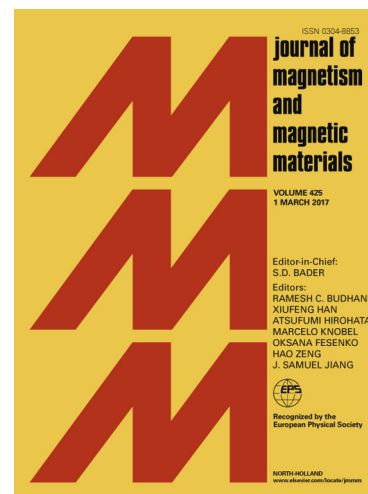
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nanocrystalline alloy under operating temperature and magnetizing frequency**

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Abstract

The alternation of dynamic magnetic characteristics with operating temperature and magnetizing frequency in annealed $\text{Fe}_{73.5}\text{Cu}_1\text{Nb}_3\text{Si}_{15.5}\text{B}_7$ nanocrystalline alloy core was systematically studied by AC B - H loop tracer and complex permeability approach. It is found that the operating temperature below 160 °C has little influence on core loss when the induction (B) is less than 1.1 T. As B becomes higher, core loss measured at higher temperature becomes larger. The B and remanence (B_r) at 80 A/m under power frequency both decline slightly as the temperature goes up. Furthermore,

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