

Nanocomposites and nanomaterials

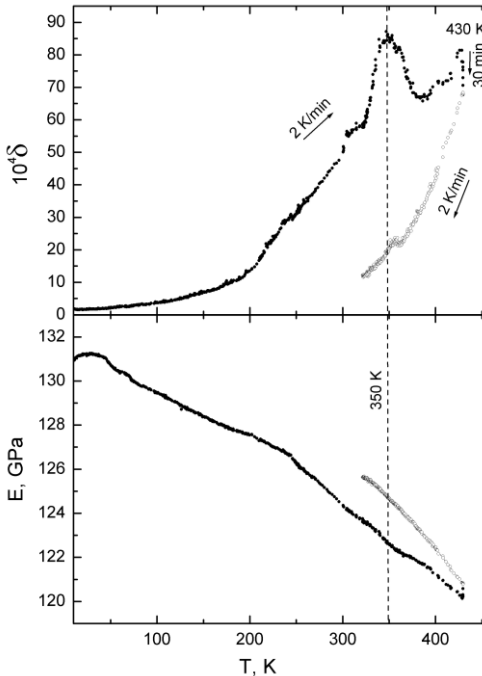
Elastic and dissipative properties of the nanocrystalline alloy $\text{Ni}_{80}\text{Fe}_{20}$ in the temperature range 5÷430 K

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In the temperature range 5÷430 K the temperature dependences of decrement δ and dynamic Young's modulus E in a nanocrystalline alloy $\text{Ni}_{80}\text{Fe}_{20}$ prepared by electrodeposition [1] are investigated. Acoustic measurements were carried out by flexural vibration technique at frequency 0.4 kHz. The grain size (30÷50 nm) was determined using electron microscopic technique. The effect of annealing at 430K on parameters of low-temperature internal friction and the related dynamic Young's modulus was studied.

1. Hongqi Li, Peter K. Liaw, Hahn Choo and Amit Misra // Appl. Phys. Lett. **93**, 051907 (2008).