

Impact of ion-irradiation upon microstructure and magnetic properties of NANOPERM-type $\text{Fe}_{81}\text{Mo}_8\text{Cu}_1\text{B}_{10}$ metallic glass

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NANOPERM-type $\text{Fe}_{81}\text{Mo}_8\text{Cu}_1\text{B}_{10}$ soft magnetic metallic glass (MG) was exposed to bombardment with 130 keV nitrogen ions. The evolution of structural arrangement as well as magnetic properties is inspected. Surface sensitive techniques of Mössbauer spectrometry as Conversion Electron Mössbauer Spectrometry (CEMS) and Conversion X-Ray Mössbauer Spectrometry (CXMS) were employed. Structural modifications demonstrate themselves also via macroscopic magnetic parameters such as temperature dependence of magnetization, Curie temperature, and hysteresis loops. CEMS/CXMS experiments have revealed that this is caused by a presence of bcc-Fe and Fe_3O_4 crystallites that were formed during the production of this MG.

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