

Structural relaxations in massive amorphous materials at low magnetic fields

Konrad Gruszka,¹ Marcin Nabiałek,¹ Katarzyna Błoch,¹ and
Paweł Pietrusiewicz¹

¹*Częstochowa University of Technology, Institute of Physics*

The influence of thermal treatment on the magnetic susceptibility disaccommodation in massive amorphous materials was studied. Structural defects occurring in the material have a significant impact on the process of magnetization at low magnetic fields. Point defects (vacancies equivalents in the crystal lattice) whose dimensions are comparable with the atoms forming the material, have significant influence on magnetic properties in the Rayleigh area. Defects in the structure of amorphous alloys can be studied indirectly by measuring the so-called magnetic susceptibility disaccommodation phenomena. During the heat treatment process, a part of defects localized in the sample volume can diffuse to the surface and thus be removed. In this work, examined samples were subjected to controlled heating process, and then the disaccommodation phenomena was investigated.