

Carbon nanotube-assisted synthesis of ferromagnetic Heusler nanoparticles of Fe₃Ga
"Nano-Galfenol"

Rasha Ghunaim^{a, b, *}, *Victoria Eckert*^a, *Maik Scholz*^a, *Markus Gellesch*^a, *Sabine Wurmehl*^{a, c},
Christine Damm^a, *Bernd Büchner*^{a, c}, *Michael Mertig*^{b, d}, *Silke Hampel*^a

^a Leibniz Institute for Solid State and Material Research Dresden, Helmholtzstrasse. 20, 01069 Dresden, Germany

^b Institute for Physical Chemistry, Technische Universität Dresden, 01062 Dresden, Germany

^c Institute for Solid State Physics, Technische Universität Dresden, 01062 Dresden, Germany

^d Kurt-Schwabe-Institut für Mess- und Sensortechnik e.V. Meinsberg, 04736 Waldheim, Germany

*Contact E-mail: r.ghunaim@ifw-dresden.de (Rasha Ghunaim)

Supplementary data

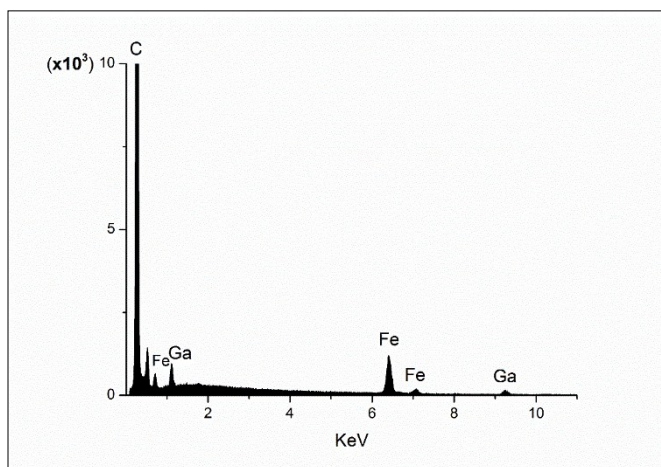


Figure 1: SEM-EDX quantitative measurement for the Fe:Ga ratio over a selected area for the annealed sample of Fe₃Ga@CNT prepared by the second filling approach, in which the ratio roughly corresponds to 3:1.

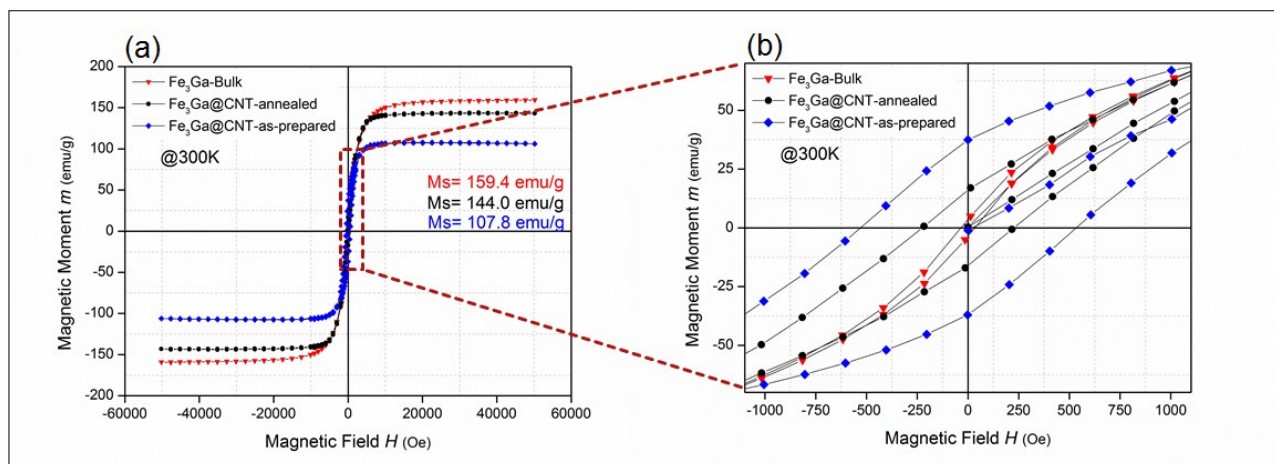


Figure 2: Hysteresis curves, measured at 300K, for the Fe₃Ga bulk material in comparison with the Fe₃Ga@CNT nanoparticles. b) Enlarged view on the hysteresis curves show the enhancement of the coercive field for the Heusler nanoparticles compared to the bulk material.