

## Magnetic nanostructured polymer composites

Mitin A., Tarasov V., Doronin V., Nazipov R.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### Abstract

Magnetic polymer composites filled with microparticles of the nanocrystalline 5BDSR alloy have been studied. Measurements have been performed mainly by the ferromagnetic resonance method complemented by other spectroscopic methods. A quasi-stepwise structure of spectra near the direction of the magnetic field perpendicular to the nanocomposite plate has been found. It has been shown that incorporation of nanoparticles of technical carbon into the composite leads to a nonmonotonic concentrational dependence of the broadening of spectral lines, which is caused by spatial variations in the perpendicular magnetic anisotropy. The ferromagnetic resonance spectrum has been processed by taking into account the scatter of the magnetic anisotropy and demagnetizing factors. © 2011 Pleiades Publishing, Ltd.

<http://dx.doi.org/10.1134/S106378341112016X>

---