Magnetic Interfaces and Nanostructures Division
Room Hall B - Session MI-ThP

Magnetic Interfaces and Nanostructures Division Poster Session

MI-ThP-1 Synthesis and Size Dependent Magnetic Properties of Iron Oxide Nanoparticles, ***Jeremy Winsett***, *A Moilanen, S Neupane,* Middle Tennessee State University

Fe_2O_3, and Fe_3O_4 nanoparticles were synthesized by means of a simple hydrothermal procedure. The experimental parameters were varied to produce nanoparticles of different sizes and morphologies. Variation in growth temperature, duration, precursor concentration, and surfactants will influence the geometry and hence the magnetic properties of nanoparticles. Scanning electron microscopy, transmission emission microscopy and X-ray diffraction were used to characterize as-synthesized magnetic nanoparticles. Saturation magnetization and hysteresis measurement were determined using a vibrating sample magnetometer. Nanoparticles exhibiting size-dependent magnetic properties can find applications in targeted drug delivery, magnetic separation, contrast enhancement in magnetic imaging and others.

Author Index

Bold page numbers indicate presenter