

Synthesis Of Nano-Sized Metal/Metal Oxide Nano-Particles Stabilized In Surfactant And Polymer Matrix And Their Magnetic Properties

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Abstract:

In our research, we are going to synthesis different nanoparticles in a range of 3 to 20 nm selectively with very narrow size distribution, using chemical preparation methods, which can be carried out either by electrochemical technique or by salt reduction technique. The nanoparticles will be stabilized in a matrix. Two different stabilizing matrix will be used: polymer and surfactant matrix.

We will study the magnetic properties using the Magnetic susceptibility system MS2 at different temperatures.

The effect of the stabilizing matrix and the effect of reducing the size into the nano-range on the magnetic properties will be investigated.

The magnetic properties nanoparticles will depend on both the structure and the size of the nanoparticles, and will be affected by the type of the stabilizing matrix.

The narrow size distribution of the nanoparticles will enhance the magnetic properties of nanoparticles.