

Abstract Submitted  
for the MAR08 Meeting of  
The American Physical Society

**Preparation of cobalt-ferrite nanoparticles within a biopolymer template**<sup>1</sup> MARCO GARZA, VIRGILIO GONZÁLEZ, ALEJANDRO TORRES-CASTRO, MOISÉS HINOJOSA, UBALDO ORTÍZ, UANL-FIME — Using an in-situ co-precipitation reaction from solid dissolutions of stoichiometric amounts of Fe (III) and Co (II) inorganic salts, it was prepared highly loaded nanocomposites (as high as 75% w/w) of cobalt-ferrite nanoparticles within a chitosan matrix, with particle size of about 7 nm, narrow particle size distribution and superparamagnetic character. Nanocomposite samples were characterized by high resolution transmission electron microscopy (HRTEM), UV-vis spectrometry and magnetic measurements by SQUID, using magnetization-field dependent,  $M(H)$ , and magnetization-temperature dependent,  $M(T)$ , studies.

<sup>1</sup>Authors acknowledge the assistance and support given by R. Escudero and M. Yacamán on the develop of this research.

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Date submitted: 13 Dec 2007

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