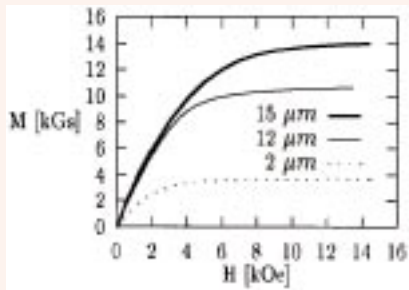
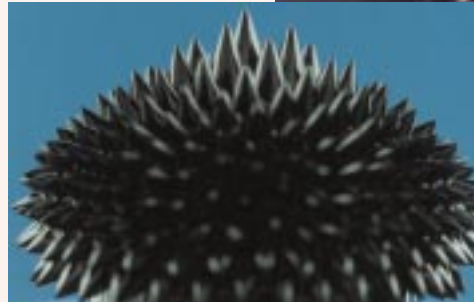


PROFILES: PARTNERS IN NANOTECHNET

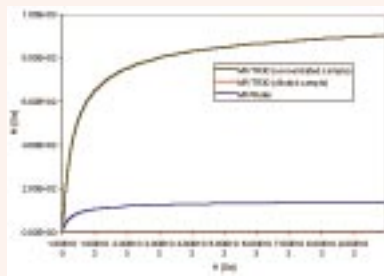
LABORATORY OF MAGNETIC FLUIDS, CENTER FOR FUNDAMENTAL AND ADVANCED ENGINEERING SCIENCE
ROMANIAN ACADEMY-TIMISOARA BRANCH and
NATIONAL CENTER FOR ENGINEERING OF SYSTEMS WITH COMPLEX FLUIDS,
UNIV. "POLITEHNICA" TIMISOARA

Contact person: Dr. Ladislau Vekas (e-mail: vekas@flumag2.mec.utt.ro; fax: +40 0256.221547)

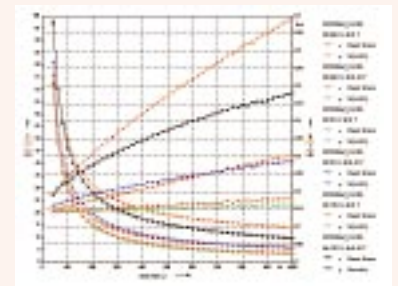
- Chemical preparation procedures for magnetic nanoparticles synthesis (5-15 nm);
- Preparation procedures for magnetizable nanofluids and composites;
- Preparation procedures for magnetorheological fluids (suspensions, emulsions);
- Magnetizable polymeric nanocomposites (gels etc);
- Over 50 types of magnetic fluids on various nonpolar and polar carrier liquids, up to 100 kA/m saturation magnetization (to be delivered on request) for engineering and biomedical applications;
- Complex characterization methods: VSM magnetometry, rotary/oscillatory rheometry and magnetorheometry, SANS (microstructural analyses in cooperation with JINR Dubna and Budapest Neutron Center), electromagnetic and mechanical properties of nanocomposites;
- Magnetically driven heat transfer processes with magnetizable cooling fluids;
- Engineering applications: leakage free rotating seals, passive and semiactive dampers, sensors, magnetogravimetric separators, actuators, bearings etc.
- Biomedical applications: magnetically driven drugs (e.g. cytostatic drugs), Roentgen contrast nanocomposites, biologically active composites for biotechnologies, cosmetics etc.



Full magnetization curves for magnetorheological suspensions with different size ferrimagnetic particles



Full magnetization curves for concentrated and diluted magnetic fluid samples



$t-h(g,B)$ and $h-h(g,B)$ curves for magnetite magnetic fluid samples with different saturation magnetization values

NATIONAL INSTITUTE OF R&D FOR ISOTOPIIC AND MOLECULAR TECHNOLOGIES (INCNTIM), CLUJ-NAPOCA, ROMANIA

Contact person: Dr. Mircea Bogdan - General Manager
Fax: +40 0264.420042

INCNTIM is a national research Institute, with 100 researchers, structured in six laboratories, a prototype workshop and an administration department. The main research domain concerns the stable isotope physics: isotopic effects, separations and analysis. The Laboratory of Specific Materials for Isotopic Separation has 15 researcher. The research activities are related with: nanomaterials, nano-carbon tubes; synthesis of organic compounds; catalytic materials.

We would like to collaborate with other researchers from Companies

and Universities from UE, in a common project for FP6 (IP or NbE).

We have already proposed an EoI (seven partners), that includes the following activities:

- * Production and characterization of alumina templates
- * Ion-selective membranes
- * Production of metallic nanoparticles
- * Chemically modified electrodes
- * Photoluminescence of anodic oxide aluminum membranes filled by luminescent materials
- * Metallic and carbon nanoparticles coated with biomolecules in order to characterize biological reactions and their use in clinical applications.
- * Preparation of carbon nanotubes, by an original method
- * Incapsulation of bioactive molecules in cyclodextrins. The evaluation of preparation methods of the inclusion compounds between a bioactive molecule and cyclodextrins (CDs).

