

# X Encontro da SBPMat

## Gramado-RS

25 to 29 | september  
2011

### Conference Details and Registration

All attendees are encouraged to visit the conference website <http://www.sbpmat.org.br/x-meeting> for further and updated information such as registration, submission of abstracts, important links for traveling (visas, travel agencies) and hotel reservation.

### Symposia

- A) Magnetic and Superconducting Materials
- B) Biodegradable Polymer Materials
- C) Electronic Materials
- D) Surface Engineering: Fabrication, Characterization, Properties and Applications of Protective Coatings and Modified Surfaces
- E) Materials with Negative Properties
- F) Nanostructured Functional Materials for Advanced Energy and Environmental Applications
- G) Molecular Modeling Materials Science
- H) Structure-property Relationship of Advanced Metallic Materials
- I) Sol-gel Route to Prepare New Inorganic, Hybrid and Multifunctional Materials
- J) Solidification of Metals and Alloys
- K) Supramolecular Organic Materials for Electronic, Photonics and Nanotechnology
- L) Structure-Property Relationship of Ceramic Materials: Theoretical and Experimental Aspects
- M) Advances and Applications of Electron Microscopy
- N) Prospects for Materials Science with Synchrotron Radiation in Brazil
- O) 1st Brazilian Symposium in Friction Stir Welding and Processing
- P) Graphene

### Official Travel Agency: Liga Turismo

The agency provides excellent hosting, airline tickets (20% discount), Gramado-PoA airport shuttle options and sightseeing suggestions.

Liga Turismo also provides travel-hosting-tour combo options! Get in contact!

Telephone: +55 51 3085-4466 or +55 54 3286-4048

e-mail: [reservas@ligaturismo.com.br](mailto:reservas@ligaturismo.com.br)



SBPMat  
Brazil-MRS

Brazilian Materials  
Research Society

## X Brazilian MRS Meeting



16 symposia with oral, poster and invited lecture presentations

Plenary lectures

Exhibits

Celebration of 10 years of Brazilian MRS

### National Committee

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*10 years of excellence in  
the congregation of science  
and research in materials  
technology in Brazil*

### Contact

Secretariat

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(55) (51) 3231-0311

### Conference Chairs

Paulo F. P. Fichtner - UFRGS - RS  
Naira M. Balzaretto - UFRGS - RS

### Important Dates

April, 5th - Registrations open  
**May, 30th - Submissions deadline**  
June, 13th - Acceptance

### Support



Credit of photos: Leonid Streliair

# Evaluation of the precursor reactants for the non-aqueous synthesis of iron oxide nanoparticles

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The purpose of this research was to develop a surfactant-free synthetic route for preparing magnetic iron oxide nanoparticles by solvothermal method<sup>1-3</sup>, in which benzyl alcohol was used as solvent. In a simple one-step-reaction process, it was studied the possibility for using an inorganic salt of iron as a precursor instead of a metalorganic reactant. Iron chlorides (II) and (III) were dissolved in benzyl alcohol in the presence, or not, of metallic iron powder and heated in an autoclave at 200 and 250°C for different times. The solid product yields crystalline iron oxide nanoparticles, which were characterized by X-ray diffraction, electronic microscopy, and infrared spectroscopy (FTIR).

**Keywords:** Iron oxide, nanoparticles, solvothermal method, non-aqueous synthesis.

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[1] N. Pinna, S. Grancharov, P. Beato, P. Bonville, M. Antonietti, and M. Niederberger. *Chem. Mater.*, **17**, 3044 (2005)

[2] H. Kempe and M. Kempe, *Biomaterials*. **31**(36): p. 9499-9510.

[3] S. Si, C. Li, X. Wang, D. Yu, Q. Peng and Y. Li. *Cryst. Growth Des.*, **5**, 391(2005)

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