

Encontro da X 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.

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Brazilian Materials
Research Society

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*10 years of excellence in
the congregation of science
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Contact

Secretariat
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Conference Chairs

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Important Dates

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

Support



Credit of photos: Leonid Strelan

The Effect of Crystal Growth by Oriented Attachment in TiO₂ Photoluminescence

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Photoluminescence spectroscopy is an important tool to study electronic features of semiconductor oxides. In this way, the purpose of this work was to relate photoluminescence features with oxide anisotropy, study by HRTEM. The oxides were synthesized by OPM². Photoluminescence spectra of the samples were obtained in diluted suspensions. There weren't remarkable difference between the spectra related to the band positions. The main difference between them was the spectra intensity. The intensity of photoluminescence in experiment like that is directly related to the presence of lattice defects. HRTEM images of the samples were obtained to understand the different intensity. Samples which showed anisotropy growth, related to the oriented attachment mechanism, showed the less intense spectra. It was due the presence of crystalline defects, as detected using HRTEM. It is an important feature of the system, since these defects can act as recombination center during a process of UV irradiation and photocatalysis².

Keywords: TiO₂, Photoluminescence spectroscopy, Lattice defects, Photocatalysis

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[1] Ribeiro, C.; Barrado, C. M.; Camargo, E.R.; Longo, E.; Leite, E. R. *Chem. Eur. J.* **2009**, *15*, 2217.

[2] Mendonça, V. R.; Ribeiro, C. *Appl. Catal. B* **2011**, *105*, 298.

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