

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.

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

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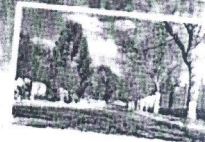
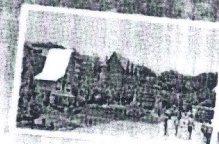
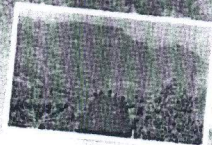


X Brazilian
MRS Meeting

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

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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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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 Strelchik

Enhanced photocatalytic efficiency: TiO₂ supported on silica.

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The utilization of semiconductors represents a major challenge in photocatalysis. TiO₂ anatase is one of the promising photocatalyst, since it has non-toxic characteristics, notable UV light absorption as well as photo-corrosion resistance and oxidative properties [1]. Surface area plays an important role in heterocatalysis since it influences the catalytic process efficiency. In this work, TiO₂ nanoparticles were immobilized on mesoporous substrate silica in order to improve surface area and obtain better catalytic efficiency. The TiO₂ resin was synthesized by polymeric precursor method and the relation resin/silica was investigated. Different resin thickness (0.5 (s0.5); 1.0 (s1.0); 2.0 (s2.0); 3.5 (s3.5); 5.0 (s5.0) nm) on silica were adjusted to pH 1.5 (S1.5) and 1.8 (S1.8) and synthesized by calcination at 450° C for 4h. S1.5 and S1.8 (both 1.0 nm) did not show considerable size difference, but notable agglomeration and resin thickness by Atomic Force Microscopy. The S1.5 showed higher agglomeration and resin thickness than 1.8. S1.5 and S1.8 were predominantly anatase (TiO₂) by X Ray Diffraction; however, S1.5 presented lower anatase peaks indicating SiO₂ interactions with TiO₂. Samples pH 1.5, s0.5 and s1.0 showed poor dispersion of TiO₂ on silica. The Rhodamine-B (dye) kinetic evaluation presents better results for s1.0 and s2.0 and the ametryn (pesticide) kinetic evaluation presents better results for s3.5 and s5.0. The results show that surface area influences the photocatalytic efficiency.

Key-words: photocatalysis, TiO₂, surface area.

Work supported by : Embrapa, Fapesp.

[1] Beranek, R.; Kisch, H., Photochem. Photobiol. Sci. 7 (2008) 40-48.

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