



Symposium N: Prospects for materials science with synchrotron radiation in Brazil

Scope of the Symposium

Over the last 30 years synchrotron radiation has become an invaluable tool for several scientific disciplines, specially for materials science. Since 1997, the Brazilian synchrotron light source (LNLS) has been providing the Brazilian and Latin American materials science communities with beam lines dedicated to diffraction, x-ray scattering and spectroscopic techniques. Over these years, the LNLS light source and beam lines have undergone several improvements and upgrades, and now operate with much better performance parameters than initially anticipated in the machine project.

A new multipurpose beam line dedicated to materials science, with optics and instrumentation adequate to applications in spectroscopic, imaging, scattering and diffractions experiments, will be installed and commissioned along 2011 and will be available to users in 2012. This beam line will utilize synchrotron radiation produced by a superconducting wiggler, extending the achievable energy range up to 30 keV and a ~200 and ~1000-fold flux enhancement at 10 and 20 keV, respectively, as compared to the current hard X-ray LNLS beam lines. Moreover, since the LNLS storage ring is reaching its limits for upgrades, the plans for the construction of a new, high brilliance 3rd generation light source in the next decade are in advanced stage. In view of the new potentialities opened up by the new LNLS beam lines and the new light source, the SBPMAT meeting is a timely opportunity to gather the materials science community and discuss the perspectives for materials science with synchrotron radiation in Brazil. The main focus of the discussions will be on new experiments and techniques only feasible with these new facilities. Invited keynote lectures will cover such topics. We will also accept abstracts on general materials science topics such as catalysis, materials under extreme conditions, magnetism, nanomaterials and so on. Finally, the lectures and discussions will be complemented by 2-3 day data analysis schools on Rietveld Refinement, Small Angle X-Ray Scattering (SAXS) and X-ray Absorption Fine Structure Spectroscopy (XAFS), to be held on the weekend after the SBPMAT meeting.

Invited speakers include:

Narcizo Souza-Netto (LNLS), **Ricardo Rodrigues** (LNLS), **Mark Ridgway** (ANU), **Rogério Paniago** (UFMG), **Angelo Malachias** (LNLS)

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