Contribution ID: **210** Type: **Oral Presentation**

The radioactive ion beam facility project at iThemba Labs and its potencial uses for materials research

Thursday, 14 July 2011 11:00 (15 minutes)

<p>An introduction to the new development project on the implementation of a radioactive ion beam (RIB) facility at iThemba LABS will be presented. In particular with relation to the uses of the RIB for the application of research in condense matter and materials research. Some leading examples by international laboratories using radioactive nuclei as probes to enhance the understanding of structural and/or electronic/magnetic lattice environment in materials (metals, insulators or semiconductors) will be also presented. The main procedures of such investigations are implantation induced lattice damage and its annealing behavior, the lattice site of the implanted ion after annealing, the interaction between impurities or impurities and intrinsic defects, the electronic and optical properties of the implanted species and the identification of defects and impurities. The understanding and the control of diffusion profiles of intrinsic and extrinsic defects particularly in semiconductors is significantly enhanced using radioactive tracer diffusion.

Level (Hons, MSc,
   PhD, other)?

Contributed Talk

Consider for a student
   award (Yes / No)?

No

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

Yes

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