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## **SPECIAL SECTION: SURFACE CHARACTERIZATION USING ACCELERATORS**

### **Preface**

Ion beam research in materials science, devices and associated areas has been constantly growing. Low energy ion beams (keV) are now an indispensable part of a large class of industry and analytical laboratories in some form or the other. Nuclear particle accelerators providing MeV ion beams are now becoming available in a commercial form which can be exploited by industries. In the last decade or so, ion beams of a few tens of MeV up to GeV energies of practically all elements are being used for modification of the properties of the materials. Accelerator-based techniques such as Elastic Recoil Detection Analysis (ERDA), Heavy Ion Back Scattering (HIBS) are being perfected by state-of-the-art instrumentation and new techniques are being evolved for characterization and depth profiling of samples. Further, possibilities of engineering surface properties of materials are now emerging. Conferences in a new area of Swift Heavy Ions in Materials Engineering and Characterization (SHIMEC) are being organized. Considerable amount of work in this emerging area is now being done in our country by using accelerators of different types in different laboratories. This special section will help in disseminating information about this field to the condensed matter physics community which in turn will help planning research in the field with better focus on physics.

– *G. K. Mehta*