ASSOCIATE EDITORS' message

Single Crystals in Advanced and Radiation Technology

We are extremely delighted to get this opportunity to bring out this thematic issue of BARC newsletter on Single Crystals for radiation detection. The Crystal Technology Section of Technical Physics Division is dedicated to the development of scintillator and semiconductor single crystals for the application of radiation detection. This includes crystal growth of conventional scintillators like NaI:Tl and CsI:Tl and advanced fast and high light yield scintillators like $LaBr_3$:Ce and $Gd_3Ga_3Al_2O_{12}$:Ce. These crystals are further processed to fabricate radiation detectors whose performances are comparable to commercially available detectors. Our emphasis is always on having indigenous technologies which are important to the department. Because of the increasing demand for detectors covering a wide range of energy spectrum based on high-purity Ge single crystals in DAE a program was also started for the development of HPGe detectors. We are involved in the growth of Ge single crystals and fabrication of HPGe device by Boron ion implanted and Lithium beam diffusion into High purity Ge single crystals which were commercially bought.

This thematic issue of BARC Newsletter has total five research articles encapsulating the full gamut of the research activities carried out in the Crystal technology Section of Technical Physics division. These articles provide the overview of the different materials we are working on and the detectors developed using them. Further there are two articles detailing recent research highlights of the group and two on the technology transfer, incubation and patent.

We take this opportunity to acknowledge all the authors for their valuable contributions in this thematic issue. We are thankful to Director, Physics Group for his constant support and guidance in compiling the articles. We earnestly acknowledge the guidance of the editors, sincere and hard working role of the editorial team of SIRD for the compilation of the articles, photography of CTS facilities, creative work by the editorial team in designing the cover page and for dedicated efforts in bringing out BARC Newsletter in a time bound manner.

Dr. L. M. Pant
Head, TPD, BARC

Dr. Shashwati Sen
Head, CTS, TPD, BARC