Materials Science and Engineering research and Education at the Center for Irradiation of Materials of Alabama A&M University

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The Center for Irradiation of Materials @ AAMU (http://cim.aamu.edu) established in 1990 to serve the University in its research, Education and services the need of the local community and Industry. CIM irradiation capabilities oriented around two tandem type ion accelerators with seven beam lines providing high resolution Rutherford backscattering spectrometry (RBS), MeV focus ion beam, high energy ion implantation and irradiation damage studies, particle induced x-ray emission (PIXE), particle induced gamma emission (PIGE), and ion induced nuclear reaction analysis in addition to fully automated ion channeling. One of the two tandem ion accelerators designed to produce high flux ion beam for high fluence MeV ion implantation and high fluence ion irradiation damage study. The facilty is well equipped with variety of surface analysis systems, such as SEM, ESCA, as well as scanning micro-Raman analysis, UV-VIS Spectrometry, luminescence spectroscopy, Thermal conductivity, electrical conductivity, IV/CV systems, Mechanical test systems, AFM, FTIR, Voltmetry analysis as well as low energy implaters, Ion Beam Assisted Deposition and MBE systems. In this presentation we will demonstrate how the facility provides services to schools, industries and how CIM has contributed to the recent invention of fabrication of highly efficient thermoelectric materials.

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