ABSTRACT

In the present work, the effects of ion implantation of nitrogen ions on the surface of Al-6061 are investigated. The Al-6061 samples were irradiated at energy 0.75MeV and dose variedfrom $2.5x10^{13}$ions/$cm^2$to 10^{14} ions/cm^2 by pelletron accelerator. After irradiation, the structural analysis is done with the help of X-Ray Diffraction (XRD) and Scanning Electron Microscope (SEM). The mechanical properties were studied with the help of Universal testing machine (UTM) and Hardness testing machine.It is found that the addition of an impurity improves the surface morphology and mechanical properties of the material.