

## Characterization of Fe Ion Implanted Boron Nitride

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In order to study the magnetic property modification, Fe ions were implanted into non-magnetic materials(BN, Al<sub>2</sub>O<sub>3</sub>). Fe ions were generated from sputter ion source to a total beam current of 50  $\mu$ A. Implantation works were performed into Boron Nitride at room temperature and liquid nitrogen temperature with 60-keV <sup>56</sup>Fe ions to a dose range of  $1 \times 10^{17}$  ions/cm<sup>2</sup>. The depth profile of the implanted specimens were investigated by Rutherford backscattering Spectroscopy(RBS) and Auger electron spectroscopy(AES). The phase of the implanted specimens were studied by Glancing-angle X-ray diffraction(GXRD).

Vibrating Sample Magnetometer(VSM) and Torque meter have been used to investigate the magnetic properties of Boron Nitride and Al<sub>2</sub>O<sub>3</sub>.

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