

# Effects of Highly Charged Ions bombardments on film-Coated Glassy Carbon

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**Abstract:** The present work reports the damage induced on the glassy carbon coated with thin films of tungsten by slow, but highly charged ion, the  $\text{Xe}^{40+}$  of three different fluences and energies. The pristine and irradiated glassy carbon coated with tungsten films were characterized at room temperature by Raman spectroscopy, atomic force microscopy and SEM. Raman results showed that the virgin glassy carbon has a crystalline size of 2.91 nm. This parameter was found to have reduced in size due to increase in disorder introduced by the HCI irradiation. Samples irradiated with high kinetic energy of 460 keV has the least crystalline size of 1.54 nm. This shows that the energy of HCI contributes substantially to damage introduced in the glassy carbon. The AFM results concur with the Raman results. The hillock size and surface roughness are most visible in the irradiated sample with largest energy of 460 keV.