

ABSTRACT:

The Excimer KrF laser (of wave length 248 nm, pulse energy of 13-50 mJ and pulse width of 20 ns) has been used to ablate graphite solid target. Thin films of graphite material have been grown on silicon (Si) substrate at different temperatures (25°C & 300°C). The techniques x-ray diffraction (XRD) and scanning electron microscopy has been used to study the structure and surface morphology of the deposited thin films. The whole experiment has been performed in the stainless steel chamber under pressure 10^{-4} torr and each thin film has been deposited for 10,000 laser shots. The graphite thin film deposited at higher substrate temperature has smooth structure and the film is uniform.