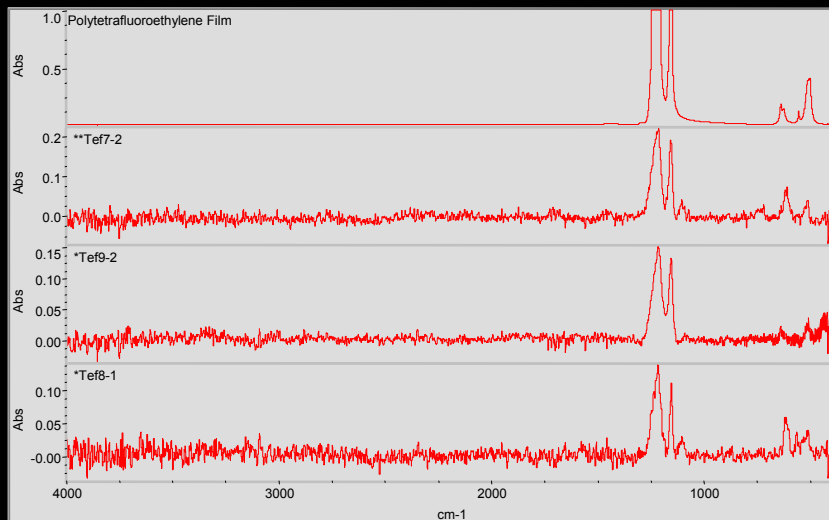


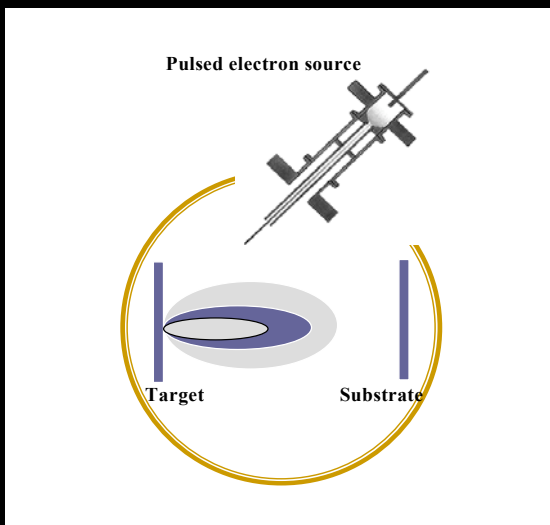
Pulsed Electron Deposition

Deposition of polymer thin films without altering molecular structure

Thin films of novel polymers and organics in conjunction with functional ceramics could become building blocks in emerging microelectronic devices, chemical and biological sensors, passivation and barrier layers leading to widespread applications in aerospace, automotive, medical, military and packaging industries. Thin film deposition of certain complex polymers poses several challenges in facilitating these applications. Recent work carried out on Pulsed Electron Deposition (PED) of polymers such as PTFE (Teflon) and PET indicates that the films retain the molecular structure of the bulk target material. The ability of PED to deposit polymers and several technologically important ceramic oxides open new application possibilities.



Far IR spectrum for PTFE bulk targets and thin films deposited by pulsed electron deposition. The thin films retain the molecular structure of the bulk target material.



Schematic of pulsed electron deposition



PED-120 Pulsed Electron Deposition system