

A new system for polymerization of fullerene using Electron Beam

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We designed a new system for polymerization of fullerene using Electron beam irradiation. Thin films of new materials onto CsI for Fourier transform infrared spectroscopy, and quartz for Ultraviolet spectroscopy were formed by sublimation at about 400°C for 8h in the vacuum chamber in a base pressure of $1 \sim 4 \times 10^{-4}$ torr. During the deposition process of sample, the substrate was heated to and maintained at 190°C. Thin films of fullerene, obtained using Electron beam irradiation, (electron beam energy is 500eV) were studied by Ultraviolet spectroscopy and Fourier-transform infrared spectroscopy. Variations in Ultraviolet spectrum and disappearance of four fullerene active modes peaks (526,576,1183, and 1429cm^{-1}) in Fourier-transform infrared spectrum were reported in the present investigation.

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