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CONTINUUM RADIATION EMITTED FROM THIN CARBON FOILS BY LIGHT ION BOMBARDMENTS

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Relative intensities of photons emitted from tilted carbon foils have been measured in the wavelength region 300-800 nm by 0.6-2.4 MeV H⁺ and He⁺ ion impacts. Ions were directed onto target surfaces at tilt angles with respect to the surface normal. Experimental results support the model that the observed continuum radiation is emitted from the exited carbon foil itself. At each incident projectile energy, the photon intensities of continuum spectra for tilted carbon foils were compared to the stopping powers of carbon for H⁺ and He⁺ ions. It was found that the photon emission intensity for H⁺ ion is linearly proportional to the stopping power, whereas that for He⁺ ions is proportional to a higher power of the stopping power, and that this tendency increases with decreasing velocity of the projectiles[1,2].

REFERENCE

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