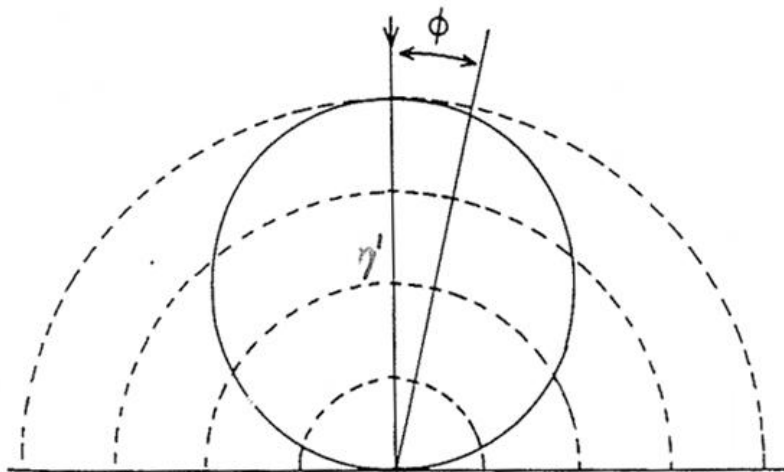# Angular distribution of BSE

it is defined relative to the normal to the surface. It refers to the number of BSE escaping the surface at different angles (Φ) relative to the normal to the surface.

Normal beam incidence (0° Tilt), BSE coefficient η follow a distribution as a cosine expression,

$$\eta\,(\Phi) = \eta'\cos\Phi$$

The maximum number of BSE is emitted along the surface normal, $\Phi = 0°$. At $\Phi = 45°$, the BSE intensity is about 0.707 of the intensity at $\Phi = 0°$, meanwhile at $\Phi = 60°$, the BSE intensity has fallen down to about 0.50.

The angular location of a BSE detector relative to a specimen surface will have a very strong influence on the collection efficiency!