

3.3

Geometry corrections – Experimental methods

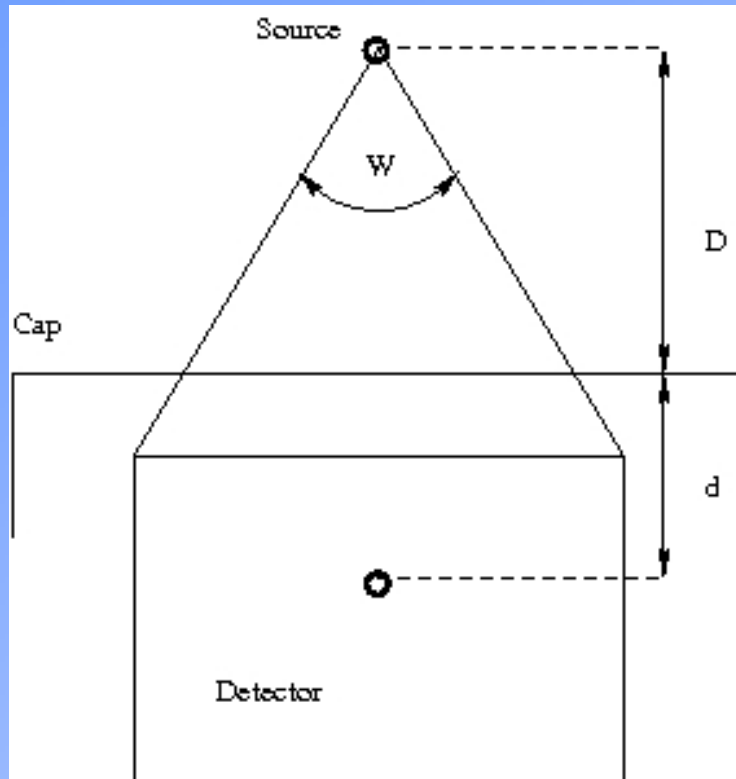
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Virtual point detector



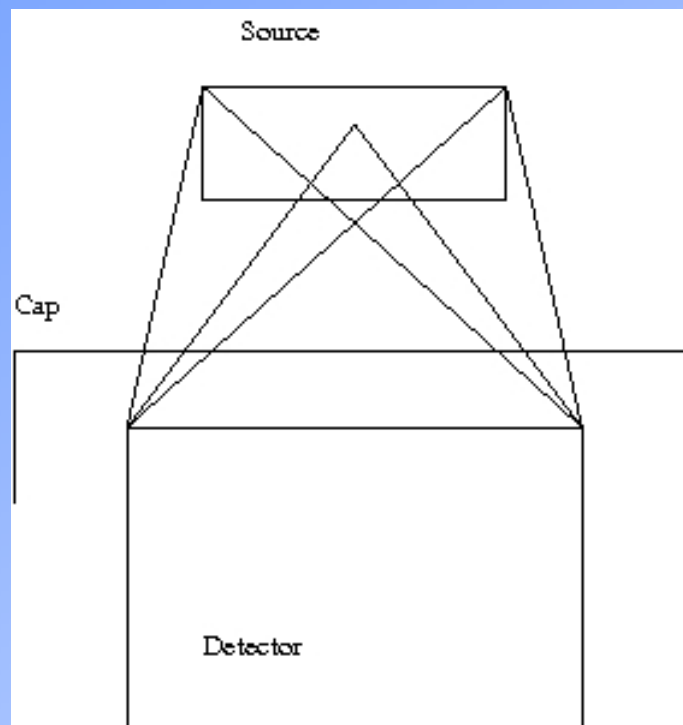
$$R = k / x^2$$

$$x = D + d$$

$$1/R^{1/2} = kD + kd$$

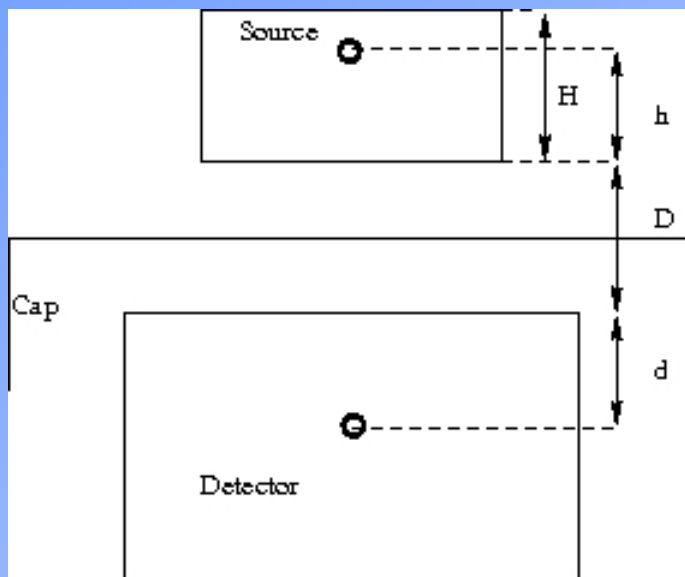


Extended source





Virtual point source and detector



$$1/R^{1/2} = kD + kd + kh$$

$$h = fH$$

$$1/R^{1/2} = K + kfH = K + FH$$

$$R = R_0 (1 + FH)^2 / (1 + FH_0)^2$$



Validity

- ❑ Gilmore reports on successful use in an activation analysis laboratory
- ❑ Study of 49 detectors was done with MCNP simulations
- ❑ Small distances may be a problem – absorption
- ❑ Control of sample height in preparation (1 mm = couple of percent change in efficiency)