

- 9 The radiation from a radioactive source is detected using the apparatus illustrated in Fig. 9.1.

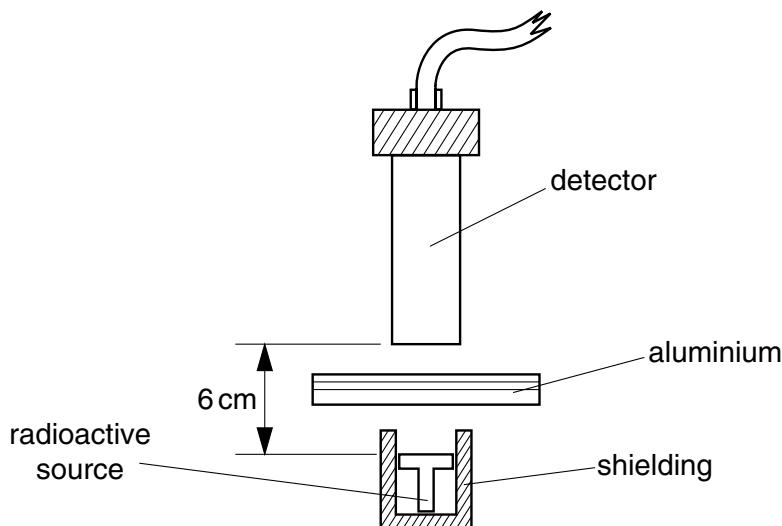


Fig. 9.1

Different thicknesses of aluminium are placed between the source and the detector. The count rate is obtained for each thickness. Fig. 9.2 shows the variation with thickness x of aluminium of the count rate.

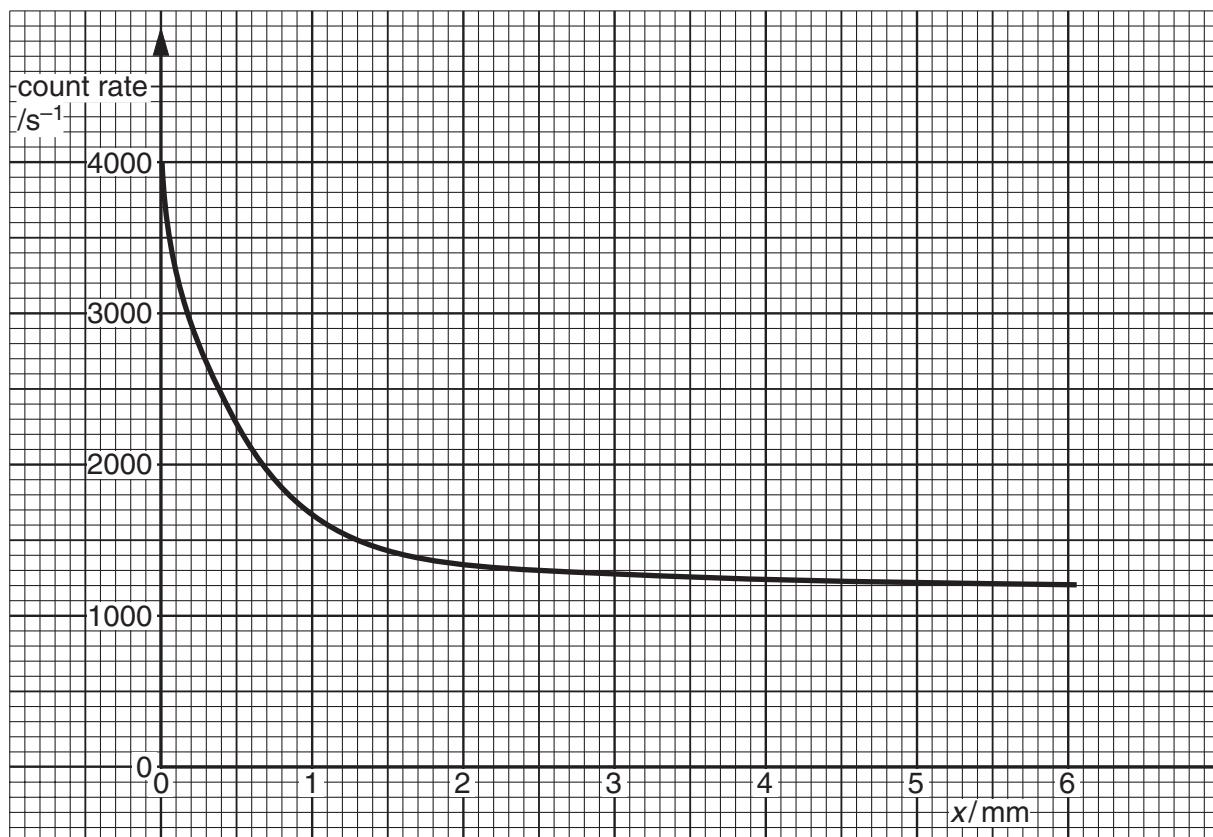


Fig. 9.2

- (a) Suggest why it is not possible to detect the presence of the emission of α -particles from the source.

.....
.....

[1]

- (b) State the evidence provided on Fig. 9.2 for the emission from the source of

- (i) β -particles,

.....
.....
.....

- (ii) γ -radiation.

.....
.....
.....

[4]