magnet was found to be no more than 3 percent of the total field.

Voltage variations in time were due chiefly to changing vacuum conditions in the accelerating tube and in the rectifiers. Although frequent shut-downs were necessary to adjust the hydrogen leak and refill the cooling jacket of the source, care was taken to "break in" the tubes with voltage until vacuum conditions were fairly steady before resuming readings, since according to the results of Henderson[10] a change of voltage of $2\frac{1}{2}$ percent at 250 kv results in a change of 6 percent in the number of disintegrations.

The stopping power of the windows in the target chamber was approximately 3 cm, while the distance from the windows to the ionization chamber was $1\frac{1}{2}$ cm. The total stopping power of mica and air in the path of the alpha-particles was, accordingly, only $4\frac{1}{2}$ cm. Since the range of the particles was 8.4 cm, slight variations in the thickness of the windows introduced no error in determining the number of particles reaching the ionization chamber.

In order to avoid variations due to the thickness of the target traversed by alpha-particles on their way to the window at which observations were being made, the target was always adjusted so that it occupied a symmetrical position with respect to the incident beam and the direction of observation. (See Fig. 5.) There is, therefore, no correction necessary for target penetration, since conditions are similar for all windows.

In our discussion thus far we have spoken of the target as though it had a perfectly smooth surface. Although this is, of course, not true, we have estimated that the error introduced by neglecting to consider the alpha-particles which may be absorbed by crystals of the salt is negligible.

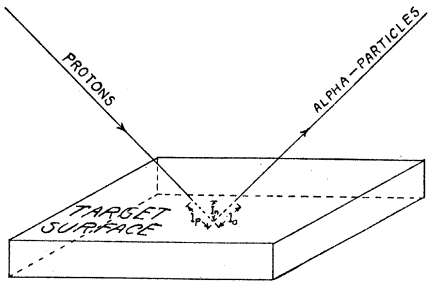

FIG. 5. Target penetration.

There still remains to be considered the effect of the change in size and shape of the ion spot on the target as the target is changed in position for the various windows. As the spot changes shape and becomes longer or shorter the solid angle of each of its elements as seen from the window of observation changes from one window to the next. This effect was calculated for the window at 35° and for the window at 140° from the incident beam. The result of the calculations showed the necessary correction to be negligible and of no importance for this range of angles and for a proton beam of $\frac{1}{4}$-inch diameter.

After considering the various sources of error and their relative importance we have concluded that the accuracy to be expected from these experiments is approximately eight percent. The results indicate that within these limits the emission of alpha-particles is random in direction.

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[10] M. C. Henderson, Phys. Rev. **43**, 98 (1933).

Erratum: Fine Structure of $D\alpha$ with Increased Resolution

ROBLEY C. WILLIAMS AND R. C. GIBBS, *Department of Physics, Cornell University* (Phys. Rev. **48**, 971 (1935))

IN the sixth line from the end the word *increased* should be changed to *decreased*. The conclusion that follows is correctly stated.