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## Distribution in Angle of Alpha Particles from $\text{Li}^7 + \text{H}^1$

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DISTRIBUTION IN ANGLE OF ALPHA PARTICLES  
FROM  $\text{Li}^7 + \text{H}^1$

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We find the distribution of alpha particles from  $\text{Li}^7 + \text{H}^1$  is not spherically symmetric, a result in disagreement with the conclusions of earlier investigators,<sup>1</sup> who, however, worked at rather low energies only.

Thick target data at energies as low as 150 ekv show the presence of a small  $\cos^2 \Theta$  term and may be represented by

$$I(\Theta) = 1 + .16 \cos^2 \Theta$$

while at 440 ekv the asymmetry is very marked, the data being well represented by

$$I(\Theta) = 1 + .7 \cos^2 \Theta.$$

Because of the rapid increase of yield with energy, it is to be expected that thin target data will show a slightly but only slightly greater  $\cos^2 \Theta$  term. Preliminary thin target data appear to bear this out.

<sup>1</sup> F. Kirchner, *Phys. Zeits*, 34, 785, 1933. J. Giarratana and C. G. Brennecke, *Phys. Rev.* 49, 35, 1936. H. Neuert, *Ann. d. Phys.* 36, 437, 1939.

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THE RESONANCE IN THE B-P-a REACTION

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The yield of alpha particles of range greater than 2 cms. from boron bombarded by protons has been studied as a function of bombarding energy in the range from 100 to 200 ekv, using a thin target, either methyl borate or boron trifluoride at pressures of 1 mm. of Hg. The yield vs. energy curve shows an approximately exponential rise on which is superposed a sharp (half breadth  $\sim 6$  ekv) intense line at  $150 \pm$  ekv. There is some indication of a weaker and much broader line at 190 ekv. Number range curves are not yet available, but the appearance of pulses on the oscillo-