

FIG. 2. Co^{60} single crystal spectra taken with $1\frac{1}{2}$ -in. diameter crystal $1\frac{1}{2}$ in. high and an uncollimated source.

The successful use of large NaI crystals and uncollimated sources is in disagreement with the results obtained by McIntyre and Hofstadter² on single crystals but agrees with those obtained by P. R. Bell.³ Figure 2 shows an uncollimated, single-crystal spectrum of Co^{60} obtained with a crystal 1.5 in. in diameter and 1.5-in. high. Presumably the uniformity of the raw crystal material, surface conditions, and mounting have more effect on the resolution than does the crystal size.

¹ R. Hofstadter and J. A. McIntyre, *Phys. Rev.* **78**, 619 (1950).

² J. A. McIntyre and R. Hofstadter, *Phys. Rev.* **78**, 617 (1950).

³ P. R. Bell, *Science* **112**, 7 (1950).

Erratum: Experiments on the Effect of Atomic Electrons on the Decay Constant of Be^7

[*Phys. Rev.* **75**, 39 (1949)]

E. SEGRÈ AND C. E. WIEGAND

Radiation Laboratory, Department of Physics, University of California, Berkeley, California

WE have made an error in plotting, as the experimental points of Fig. 2, $2\delta e^{\lambda t}$ instead of $\delta e^{\lambda t}$ as indicated. Similarly the final value of $\Delta\lambda/\lambda$ should be divided by 2 giving

$$\Delta\lambda/\lambda = (-1.5 \pm 0.9)10^{-4}.$$

Experiments on Elastic $p-p$ Scattering in the Energy Range 120 to 345 Mev*

O. CHAMBERLAIN, E. SEGRÈ, AND C. WIEGAND

Radiation Laboratory, Department of Physics, University of California, Berkeley, California
November 20, 1950

IN a previous paper¹ we described some experiments on $p-p$ scattering at 340 Mev made with gas proportional counters.

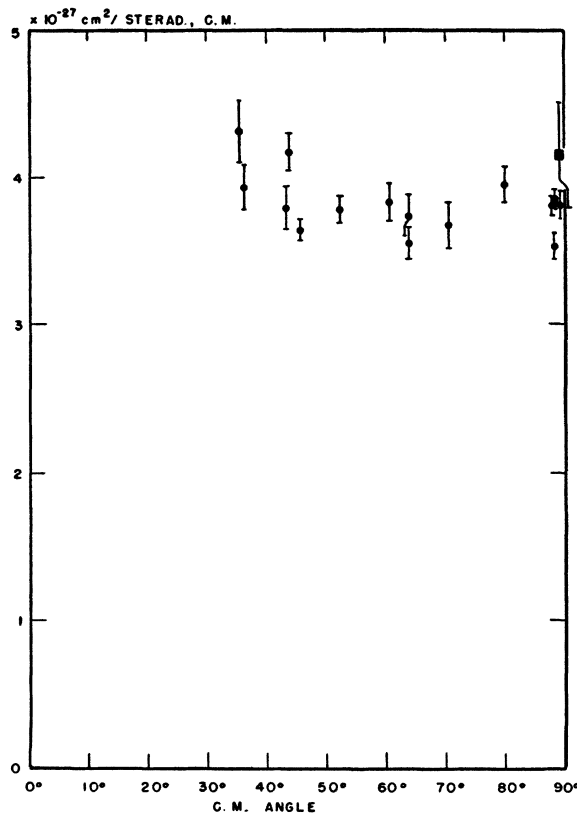


FIG. 1. Differential scattering cross section in the center-of-mass system as a function of the angle in this system.

We have now improved and extended the measurements by using stilbene scintillation counters in coincidence and by varying the energy of the beam by the use of lithium absorbers.

In view of the interest in these results as shown in recent theoretical papers we have decided to publish the results to date. Details on the experiments and extension to smaller angles will follow later.

The results at 345 Mev are summarized in Fig. 1 which gives the differential scattering cross section in the center-of-mass system as a function of the angle in this system. The cross section is normalized in the usual way such that the total scattering cross section σ_s is given by

$$\sigma_s = \frac{1}{2} \int_{4\pi} \sigma(\phi) d\omega_\phi = \frac{1}{2} \int_0^\pi \sigma(\phi) [2\pi \sin\phi d\phi].$$

Table I gives the differential cross sections of $\sigma(\phi)$ (center of mass system) for incident proton energy, E , in the laboratory coordinate system, at angle ϕ (center-of-mass system) from the beam direction. The symmetry of the problem in the center-of-mass system guarantees that $\sigma(\phi) = \sigma(\pi - \phi)$.

TABLE I. Differential scattering cross sections at reduced energies. Quoted errors are standard deviations from counting statistics only.

E (Mev)	ϕ (degrees)	$\sigma(\phi)$ (10^{-27} cm ² sterad ⁻¹)
119	63	4.0 \pm 0.4
119	78	4.2 \pm 0.4
119	89	3.95 \pm 0.12
164	61	4.1 \pm 0.4
164	89	3.8 \pm 0.3
249	48	3.5 \pm 0.3
249	63	3.7 \pm 0.2
249	78	3.69 \pm 0.15
249	87	3.64 \pm 0.11