and S^{32}. We note that the average binding energy per particle for the three shells is, respectively, 8.3, 9.3, and 8.6 Mev.

In connection with the computed mass values of Barkas,[2] there are several misprints and errors which have apparently been propagated widely throughout the literature. The values for O^{19} and O^{20} seem to be in error, along with the entire group of $A=4n+2$, $T=2$ nuclei, for which the wrong symmetry character was used in making the calculations. In Table I, corrected values are reported for these nuclei and compared with probable experimental values taken from the table of isotopes prepared by Seaborg and Perlman.[6] The agreement is improved in every case. A more comprehensive study of the agreement of the Wigner theory with new experimental data of β-decay energies and Q-values will be presented by the author in the future.

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Angular Distribution of Annihilation Radiation

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WHILE testing with annihilation radiation a circuit selecting the coincident pulses from two scintillation counters, it was realized that the angular correlation between the two annihilation photons could easily be measured with far greater accuracy than previously reported.[1] As a consequence, we performed several measurements on the angular distribution of the two photons, using sources of Cu^{64} surrounded by a gold absorber in which the positrons were stopped.

During the final measurements, whose results are reported in Fig. 1, the distance between the source and either detector was 120 cm. The source and detectors were aligned on the same horizontal line by means of a cathetometer, which was also used to measure the vertical displacements of one of the detectors. The detectors, seen from the source, subtended a vertical angle of 4×10^{-3} rad, while the source, seen from the detectors, covered an angle about ten times smaller.

The zero on the abscissas of Fig. 1. corresponds to the position where the source and the upper surfaces of the detectors were in the same horizontal line. The coincidence rate has a maximum for a negative abscissa, corresponding to the position where the line joining the centers of the detectors passes through the source. The fact that the counting rate does not vanish for positive displacements definitely indicates that the annihilation gamma-rays are not always emitted in exactly opposite directions.

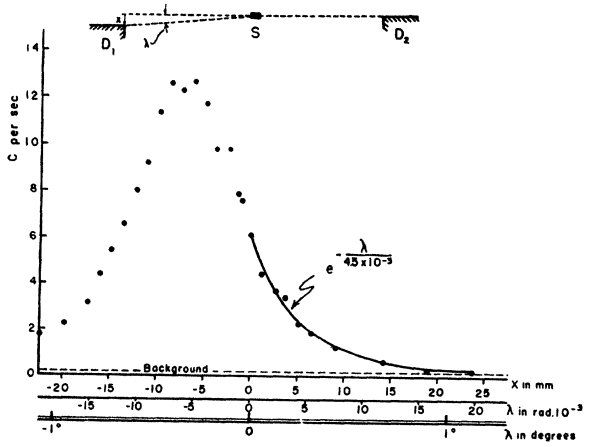

FIG. 1. Gamma-gamma-coincidences as a function of the position of one of the detectors.

If one approximates with an exponential the tail of the curve for positive abscissas, one obtains for the average value of the momentum of the center of mass of the annihilating pairs approximately 0.9×10^{-2} in units of mc. This is remarkably close to the value of 0.8×10^{-2} obtained by Dumond, Lind, and Watson,[2] from the shape of the annihilation line from a Cu absorber.

A more detailed description of the experiment and a more complete theoretical discussion is under preparation.

* Assisted by the joint program of the ONR and the AEC.
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Erratum: The Second Viscosity of Liquids

[Phys. Rev. **75**, 1415 (1949)]

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THE values for n' given in column 5 of Table I are incorrect and should be deleted. It was intended that this column be derived by multiplication of columns 3 and 4 and the correct values are easily obtainable in this way.

Anomalous Adsorption of Helium at Liquid Helium Temperatures

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DURING measurements on the distribution of He^3 between gas and adsorbed film for dilute mixtures of He^3 and He^4 adsorbed on jeweler's rouge (Fe_2O_3) in the He *II* region,[1] we encountered equilibrium pressures markedly different from those previously reported.[2] We, therefore, made preliminary measurements of the adsorption isotherms for He^4.

The adsorbent was 0.81 g of Fe_2O_3, of surface area 1.7 m^2, as determined from a Kr isotherm at 90.2°K.

The data are shown in Fig. 1, in which the volume adsorbed in S.T.P. cc is plotted against the ratio of the measured equilibrium pressure P to the saturation pressure P_0 of the bulk liquid He at the measuring temperature. The dotted curve is the isotherm at 2.45°K; the solid curve is for all measured temperatures below T_λ, namely, 2.11°, 1.78°, and 1.53°K.[3]

The data present several unusual features:

(1) The He *II* isotherms are identical, within our error of 2 percent between 1.53° and 2.11°K, and from 25 to 80 percent saturation. Consequently, the heat of vaporization of the adsorbed He in this region must equal that of the bulk liquid (see also Frederikse, reference 3). As the adsorbed He is in thermal equilibrium with vapor at $P<P_0$, this result requires that the entropy of the adsorbed layers be higher than that of liquid He, as predicted several years ago by Kramers.[4] The heat of adsorption would have to be changed by about twice our experimental error in order to account for the apparent entropy difference.