We wish to thank O. Chamberlain, E. Segrè, R. Tripp, C. Wiegand, and T. Ypsilantis for discussions relating to their experiments.

A full account of the above material will soon be submitted to *The Physical Review* for publication.

* This work was performed under the auspices of the U. S. Atomic Energy Commission.

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[2] De Carvalho, Marshall, and Marshall, Phys. Rev. (to be published); Chamberlain, Segrè, Tripp, Wiegand, and Ypsilantis, Phys. Rev. **93**, 1430 (1954).

[3] Suggested by E. Fermi and C. N. Yang. See also calculations of R. M. Sternheimer, Phys. Rev. **95**, 587 (1954).

[4] Parabolic and Gaussian well shapes were assumed for the central potential. The spin-orbit potential was taken to be proportional to the derivative of the central potential.

[5] Chamberlain, Segrè, Tripp, Wiegand, and Ypsilantis, Phys. Rev. (to be published).

[6] The nuclear potential was taken to be

$$V=-\{(18+i30)(1-r^2/R^2)+1.2\boldsymbol{\sigma}\cdot\mathbf{L}/\hbar\}\,\text{Mev},$$

for $r\leq R=4.8\times10^{-13}$ cm for Al. The calculation was done with W. K. B. approximation.

[7] It must be recognized, though, that the experimental difficulties for such large-angle scattering are quite pronounced and might make the resolution of a dip, if such existed, very difficult.

Magnetic Resonance Spectra of Beryl Crystals*

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(Received July 1, 1954)

THE magnetic resonance absorption patterns of Be^9 and Al^{27} have been observed in single crystals of beryl, $Be_3Al_2Si_6O_{18}$. The Be^9 pattern consists of a strong central line with two weaker satellites as expected for a nucleus with $I=\frac{3}{2}$ and with a nonzero nuclear quadrupole coupling factor. The Al^{27} pattern consists of a strong central line with two pairs of satellites as expected for a nucleus with $I=5/2$ and with a nonzero quadrupole coupling factor.

The beryl crystal is hexagonal. From the structure deduced from x-ray studies,[1] it would appear that the Al^{27} nucleus is in an electric field of cylindrical symmetry with the unique electric direction parallel to the C axis or symmetry axis of the crystal. One of the principal directions of the gradient of the electric field at the site of the Be^9 nucleus is parallel to the C axis. It is probable that the largest electric gradient component is perpendicular to the C axis.

Two beryl crystals were employed in the present study. The first was a rather small crystal of optical quality. The second crystal was milky in appearance but was sufficiently large to provide a good oscillator coil filling factor. The spectrograph employed was of the superregenerative type; a constant magnetic field of 7800 gauss was provided by a large permanent magnet. The oscillator frequency was varied slowly by a clockdrive, and magnetic modulation of 40 cps was employed.

With the C axis of the crystal parallel to the magnetic field, the Al^{27} pattern was studied. The intense central line was relatively narrow; the inner satellites were broader and the weak outer satellites were extremely broad. The line frequencies predicted by theory[2] for the orientation in question are given by

$$\nu_{m\rightarrow m-1}=\mu H/Ih+(3e^2qQ/4Oh)(2m-1).$$

The observed frequencies lead to an effective value of 3.6401 ± 0.0003 nm for Al^{27} and a coupling constant $e^2qQ/h=3.070\pm0.015$ Mc/sec. The effective value of μ for Al^{27} in $AlCl_3$ solution is 3.6408 nm.

The Be^9 pattern with the C axis of the crystal parallel to the magnetic field has its central frequency $\nu_0=4.6674\pm0.0005$ Mc/sec, with a satellite separation of 116.3 ± 1 kc/sec.

The present study is being extended to include a detailed investigation of the Al^{27} and Be^9 patterns for various orientations of the crystal in the magnetic field.

The writers wish to express their appreciation to Professor Duncan McConnell and Professor Charles H. Shaw for supplying the crystals used in this study and for their advice on preparation of the crystals.

* This work was supported in part by a contract between the Office of Scientific Research of the Air Research and Development Command, Baltimore, Maryland, and The Ohio State University Research Foundation.

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Nuclear Absorption of Negative K Particles*

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(Received July 1, 1954)

IN a preliminary scanning of 20 000 pictures obtained with the M.I.T. multiplate cloud chamber we have observed three events that we can interpret as the nuclear absorption of negative K particles. The chamber, operated at Echo Lake, Colorado, contained eleven 0.50-inch brass plates and was triggered by a detector of high-energy nuclear interactions located directly above the chamber.

In event 86407 (see Fig. 1) an L meson (π or μ meson) and a slow V^0 particle seem to come from the point of stopping of a K particle. The probability that this is a chance association between a V^0 particle and an S particle is about 10^{-5}. The L meson stops in the chamber. The limits of its range are (29.7 and 43.7) ±2.1 g cm^{-2} brass. The V^0 particle is coplanar with the point of intersection of the K-particle and L-meson