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## Hyperfine Structure and the Depolarization of Resonance Radiation by a Magnetic Field

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phenomenon has already been observed by Herkert K. Ward with cyclohexane in benzene. Just to what extent these phenomena may be said to be representative is not known.

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### COMPARISON OF X-RAY DIFFRACTION IN $H_2O$ AND $H_2^{18}O$

G. W. STEWART

It is to be assumed that the forces in a molecule are approximately invariant for an isotopic change in mass. Consequently the x-ray diffraction curves for  $H_2O$  and  $H_2^{18}O$ , determined by the structure of the corresponding liquid, may be expected to be nearly alike. Experiment by x-ray diffractions shows this to be the case, for the differences are well within experimental error and are not as much as 1% over the greater part of the diffraction-intensity-angle curves.

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### HYPERFINE STRUCTURE AND THE DEPOLARIZATION OF RESONANCE RADIATION BY A MAGNETIC FIELD

A. ELLETT

The depolarization of Sodium D line resonance radiation resulting from the Larmor precession of the excited atoms has been carefully determined by a photographic method. Results are compared with a former visual determination (Jour. Opt. Soc. 10, 427, 1925). The effect of hyperfine structure and especially of the degeneracy due to the finite breadth of adjacent hyperfine levels is discussed following Breit, Rev. Mod. Phys. 5:91, 1933, especially Section 4, p. 117 ff.

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