

## Final Assignment of B1 (3) n.m.r. Resonance of Decaborane

By PHILIP C. KELLER, DAVID MACLEAN, and RILEY SCHAEFFER

(*Department of Chemistry, Indiana University, Bloomington, Indiana, U.S.A.*)

The lowest field doublet in the 64.16 Mc./sec.  $^{11}\text{B}$  n.m.r. spectrum<sup>1</sup> of decaborane is converted into a singlet in the spectrum<sup>2</sup> of a diethyl ether solution of 1,2,3,4-tetradeuterodecaborane,<sup>3</sup> thus allowing conclusive assignment of this resonance to the 1(3) borons.

(*Received, April 26th, 1965.*)

<sup>1</sup> R. L. Pilling, F. N. Tebbe, M. F. Hawthorne, and E. A. Pier, *Proc. Chem. Soc.*, 1964, 402.

<sup>2</sup> Obtained by Mr. Eugene A. Pier through the courtesy of Varian Associates, Palo Alto, California, U.S.A.

<sup>3</sup> J. A. Dupont and M. F. Hawthorne, *J. Amer. Chem. Soc.*, 1962, **84**, 1804.