

defined by Birkhoff [1] is also an additive group, and very close to that defined by Halmos. Our own work has shown that we may remove the restriction from Halmos's definition and define a Boolean group as an abelian group which is infinite cyclic under addition and multiplication. Halmos asks in the same place whether every Boolean group is the additive group of some Boolean ring. Theorems 3.15, 3.16, and Corollary 3.15.1 answer this question.

References

- [1] Garrett David BIRKHOFF, **Lattice Theory**. Vol. 25, Colloquium Publications; Providence: American Mathematical Society, 3rd edition, 1967.
- [2] Paul R. HALMOS, **Lectures on Boolean Algebras**. New York, Heidelberg, Berlin: Springer-Verlag, 1974.
- [3] Pierre SAMUEL, „Modèles Booléens et Hypothèse du continu“, **Séminaire Bourbaki**, vol. 1966/1967, Exposé 317–03. New York & Amsterdam: W. A. Benjamin, Inc., 1968.