

FULLY INVARIANT ELEMENTS IN LATTICES

GRIGORE CĂLUGĂREANU

Abstract. For a fully invariant subgroup A of an abelian group $G = H \oplus K$ the equality $A = (A \cap H) \oplus (A \cap K)$ holds. This leads to a weaker definition of fully invariant elements in lattices. Among other things, it is proved that, even in decent conditions, the socle of a lattice and the terms of the so-called Loewy series are (in this sense) fully invariant.

REFERENCES

- [1] BENABDALLAH, K. and PICHE, C., *Lattices related to Torsion Abelian Groups*, Mitteilungen aus dem Math.Seminar Giessen, Heft 197, Giessen 1990, 118 pp.
- [2] CRAWLEY, P. and DILWORTH, R., *Algebraic Theory of Lattices*, Prentice-Hall, Englewood Cliffs, 1973.
- [3] FUCHS, L., *Infinite Abelian Groups*, vol. 1 + 2, Academic Press, 1970, 1973.
- [4] GRÄTZER, G. and SCHMIDT, E.T., *A special type of abelian groups*, Ann. Univ. Sci. Budapest, **III-IV** (1960/61), 85–87.
- [5] HEAD, T.J., *Purity in compact generated modular lattices*, Acta Math. Acad. Sci. Hung., **17** (1966), 55–59.

Received January 5, 2001

Faculty of Mathematics and Computer Science
“Babeş-Bolyai” University
R0-400084 Cluj-Napoca, Romania
E-mail: calu@math.ubbcluj.ro