Discussiones Mathematicae
General Algebra and Applications 42 (2022) 159–160
https://doi.org/10.7151/dmgaa.1384

DISJUNCTIVE IDEALS OF ALMOST DISTRIBUTIVE LATTICES

N. Rafi[1], M. Srujana

and

T. Srinivasa Rao

Department of Mathematics
Bapatla Engineering College
Bapatla, Andhra Pradesh, India-522 101

e-mail: rafimaths@gmail.com
srujana.maths@gmail.com
tsnivas@gmail.com

Abstract

The concept of disjunctive ideals is introduced in an Almost Distributive Lattice (ADL). It is proved that the set of all disjunctive ideals of an ADL forms a complete lattice. A necessary and sufficient condition is derived for an inverse homomorphic image of a disjunctive ideal of an ADL to be again a disjunctive ideal. Later, the concept of strongly disjunctive ideals is introduced in an ADL and their properties are studied. Some equivalent conditions are established for the set of all strongly disjunctive ideals to convert into a sublattice of the ideal lattice.

Keywords: Almost Distributive Lattice (ADL), normal ADL, disjunctive ideal, strongly disjunctive ideal, normal prime ideal, minimal prime ideal.

2010 Mathematics Subject Classification: 06D99, 06D15.

References

[1] G. Birkhoff, Lattice Theory, Amer. Math. Soc. Colloq. Publ. XXV (Providence, 1967), USA.

[2] G. Grätzer, General Lattice Theory (Academic Press, New York, Sanfransisco, 1978).

[1]Corresponding author.

[3] G.C. Rao, Almost Distributive Lattices, Doctoral Thesis (Department of Mathematics, Andhra University, Visakhapatnam, 1980).

[4] G.C. Rao and S. Ravi Kumar, *Normal Almost Distributive Lattices*, South. Asian Bull. Math. **32** (2008) 831–841.

[5] G.C. Rao and S. Ravi Kumar, *Minimal prime ideals in Almost Distributive Lattices*, Int. J. Contemp. Sci. **4** (2009) 475–484.

[6] G.C. Rao and M. Sambasiva Rao, *Annulets in Almost Distributive Lattices*, Eur. J. Pure Appl. Math. **2** (2009) 58–72.

[7] M. Sambasiva Rao, *Disjunctive ideals of Distributive Lattices*, Acta Math. Vietnamica **40** (2015) 671–682.
https://doi.org/10.1007/s40306-014-0074-z

[8] U.M. Swamy and G.C. Rao, *Almost Distributive Lattices*, J. Aust. Math. Soc. Ser. A **31** (1981) 77–91.
https://doi.org/10.1017/S1446788700018498

Received 26 April 2020
Revised 20 November 2020
Accepted 23 December 2020