UNIQUENESS THEOREM IN COMPLETE RESIDUATED ALMOST DISTRIBUTIVE LATTICES

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Abstract

Important properties of primary elements in a complete residuated ADL L and the uniqueness theorem in a complete complemented residuated ADL L are proved.

Keywords: Almost Distributive Lattice (ADL), residuation, multiplication, residuated ADL, complete residuated ADL, primary decomposition, reduced primary decomposition and normal primary decomposition.

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REFERENCES

- [1] R.P. Dilworth, *Abstract residuation over lattices*, Bull. Amer. Math. Soc. **44** (1938) 262–268.
doi:10.1090/S0002-9904-1938-06736-5
- [2] G.C. Rao, *Almost Distributive Lattices*, Doctoral Thesis (Department of Mathematics, Andhra University, Visakhapatnam, 1980).
- [3] G.C. Rao and S.S. Raju, *Complete residuated Almost Distributive Lattices*, Communicated to the Journal Discussiones Mathematicae-General Algebra and Applications.
- [4] G.C. Rao and S.S. Raju, *Decomposition theorems in principal residuated Almost Distributive Lattices*, Communicated to the Journal The Journal of the Chung Cheong Mathematical Society.
- [5] G.C. Rao and S.S. Raju, *Noether Almost Distributive Lattices*, Bull. Intrnat. Math. Virtual Institute **9** (2019) 39–46.

- [6] G.C. Rao and S.S. Raju, *Principal Residuated Almost Distributive Lattices*, Bull. Internat. Math. Virtual Institute **9** (2019) 219–230.
- [7] G.C. Rao and S.S. Raju, *Residuated Almost Distributive Lattices - I*, Internat. J. Math. Archive **8** (2017) 143–152.
- [8] G.C. Rao and S.S. Raju, *Residuated Almost Distributive Lattices - II*, Internat. J. Math. Archive **8** (2017) 190–198.
- [9] G.C. Rao and Venugopalam Undurthi, *Complete Almost Distributive Lattices*, Asian-European J. Math. **7** (2014) 1450052 (8 pages).
doi:10.1142/S1793557114500521
- [10] U.M. Swamy and G.C. Rao, *Almost Distributive Lattices*, J. Aust. Math. Soc. (Series A) **31** (1981) 77–91.
doi:10.1017/S1446788700018498
- [11] M. Ward and R.P. Dilworth, *Residuated lattices*, Proceedings of the National Academy of Sciences **24** (1938) 162–164.
doi:10.1073/pnas.24.3.162
- [12] M. Ward and R.P. Dilworth, *Residuated lattices*, Trans. Amer. Math. Soc. **45** (1939) 335–354.
doi:10.1090/S0002-9947-1939-1501995-3
- [13] M. Ward, *Residuated distributive lattices*, Duke Math. J. **6** (1940) 641–651.
doi:10.1215/S0012-7094-40-00649-4

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