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Monadic quasi-modal distributive nearlattices

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Abstract: We prove that there is a one to one correspondence between monadic finite quasi-modal operators on a distributive nearlattice and quantifiers on the distributive lattice of its finitely generated filters, extending the results given in "Calomino I., Celani S., González L. J.: Quasi-modal operators on distributive nearlattices, Rev. Unión Mat. Argent. 61 (2020), 339–352".

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References

- [1] Abbott J.C., Semi-boolean algebra, Mat. Vesnik 19 (1967), no. 4, 177-198.
- [2] Araújo J., Kinyon M., Independent axiom systems for nearlattices, Czech. Math. J. 61(136) (2011), no. 4, 975–992.
- [3] Calomino I., Celani S. A., González L. J., Quasi-modal operators on distributive nearlattices, Rev. Un. Mat. Argentina 61 (2020), no. 2, 339–352.
- [4] Celani S., Quasi-modal algebras, Math. Bohem. 126 (2001), no. 4, 721-736.
- [5] Celani S., Calomino I., Stone style duality for distributive nearlattices, Algebra Universalis 71 (2014), no. 2, 127–153.
- [6] Celani S., Calomino I., On homomorphic images and the free distributive lattice extension of a distributive nearlattice, Rep. Math. Logic 51 (2016), 57–73.
- [7] Celani S., Calomino I., Distributive nearlattices with a necessity modal operator, Math. Slovaca 69 (2019), no. 1, 35–52.
- [8] Chajda I., Halaš R., An example of a congruence distributive variety having no nearunanimity term, Acta Univ. M. Belii Ser. Math. (2006), no. 13, 29–31.
- [9] Chajda I., Halaš R., Kühr J., Semilattice Structures, Research and Exposition in Mathematics, 30, Heldermann Verlag, Lemgo, 2007.
- [10] Chajda I., Kolařík M., Nearlattices, Discrete Math. 308 (2008), no. 21, 4906–4913.
- [11] Cignoli R., Quantifiers on distributive lattices, Discrete Math. 96 (1991), no. 3, 183–197.
- [12] Cornish W. H., Hickman R. C., Weakly distributive semilattices, Acta Math. Acad. Sci. Hungar. 32 (1978), no. 1–2, 5–16.
- [13] González L.J., The logic of distributive nearlattices, Soft Comput. 22 (2018), no. 9, 2797–2807.
- [14] González L. J., Selfextensional logics with a distributive nearlattice term, Arch. Math. Logic 58 (2019), no. 1–2, 219–243.
- [15] González L. J., Calomino I., A completion for distributive nearlattices, Algebra Universalis 80 (2019), no. 4, Paper No. 48, 21 pages.
- [16] González L. J., Calomino I., Finite distributive nearlattices, Discrete Math. 344 (2021), no. 9, Paper No. 112511, 8 pages.
- [17] Halaš R., Subdirectly irreducible distributive nearlattices, Miskolc Math. Notes 7 (2006), no. 2, 141–146.
- [18] Halmos P.R., Algebraic logic. I. Monadic Boolean algebras, Compositio Math. 12 (1956), 217–249.
- [19] Hickman R., Join algebras, Comm. Algebra 8 (1980), no. 17, 1653–1685.