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A completion for distributive nearlattices. (English) Zbl 1455.06004
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By a polarity a triple (X, Y, R) is meant where X, Y are nonempty sets and R is a binary relation between X and Y . For a poset P , a completion of P is a pair (L, e) where L is a complete lattice and e is an order embedding of P into L . A collection F of upsets of P is *standard* if it contains all principal filters of P , dually for a collection I of downsets of P . A polarity is *standard* if it is of the form (F, I, R) for standard collections F and I . The authors introduce the so-called (F, I) -compact and (F, I) -dense polarities and the so-called (F, I) -completion. They prove that every distributive nearlattice can be embedded into a complete distributive lattice via an (F, I) -completion and presented a connection with free distributive lattice extension. They study how an n -ary operation can be extended on a distributive nearlattice.

Reviewer: [Ivan Chajda \(Přerov\)](#)

MSC:

- [06A12](#) Semilattices
- [06B23](#) Complete lattices, completions
- [03G10](#) Logical aspects of lattices and related structures
- [06A15](#) Galois correspondences, closure operators (in relation to ordered sets)
- [06D05](#) Structure and representation theory of distributive lattices

Cited in **2** Documents

Keywords:

[nearlattice](#); [completion](#); [free lattice extension](#)

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