

Ischi, Boris

Weak tensor products of complete atomistic lattices. (English) Zbl 1135.06004
Algebra Univers. 57, No. 2, 239-258 (2007).

The author introduces the notion of the set of weak tensor products of complete atomistic lattices. He shows that the bottom element of this set coincides with the separated product of Aerts for orthocomplemented lattices and that a slight modification gives the box product of *G. Grätzer* and *F. Wehrung* [*Algebra Univers.* 41, No. 2, 87–114 (1999; [Zbl 0965.06008](#))].

On the other hand, the top element of this set for a pair of lattices coincides with tensor products of Chu, *Z. Shmuelly* [*Pac. J. Math.* 54, No. 2, 209–225 (1974; [Zbl 0275.06003](#))] and *G. A. Fraser* [*Trans. Am. Math. Soc.* 217, 183–194 (1976; [Zbl 0355.06013](#))]. The automorphisms of weak tensor products are characterized provided some additional assumptions are fulfilled.

Reviewer: [Josef Tkadlec \(Praha\)](#)

MSC:

- [06B23](#) Complete lattices, completions
- [03G12](#) Quantum logic
- [06C15](#) Complemented lattices, orthocomplemented lattices and posets
- [81P10](#) Logical foundations of quantum mechanics; quantum logic (quantum-theoretic aspects)

Cited in 1 Document

Keywords:

complete atomistic lattice; tensor product; quantum logic

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