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**Typed quantum logic.** (English) Zbl 1032.81002

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This paper develops a higher-order version of orthomodular logic in terms of type theory. The soundness and completeness theorems are established.

Reviewer: [Hirokazu Nishimura \(Tsukuba\)](#)

**MSC:**

**81P10** Logical foundations of quantum mechanics; quantum logic (quantum-theoretic aspects)

**03G12** Quantum logic

**06C15** Complemented lattices, orthocomplemented lattices and posets

Cited in **1** Document

**Keywords:**

quantum logic; higher-order logic; type theory; set theory; completeness theorems

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