

**Oidè, Akira**

**Quantum logic in the framework of linear logic.** (English) Zbl 0856.03047  
*Ann. Jap. Assoc. Philos. Sci.* 9, No. 1, 35-46 (1996).

This paper gives a formal system for quantum logic (= the logic of orthomodular lattices) as an extension of Girard's linear logic. Quantum phase spaces are introduced as an extension of Girard's phase spaces, and the author's formal system is shown to be sound with respect to these semantical structures. It is not even discussed whether the completeness theorem obtains.

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

**MSC:**

03G12 Quantum logic

03B20 Subsystems of classical logic (including intuitionistic logic)

**Keywords:**

phase structure; quantum phase spaces; formal system for quantum logic; logic of orthomodular lattices; extension of Girard's linear logic; Girard's phase spaces

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