A note on Boolean subsets of orthomodular posets

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Abstract

Modelling quantum systems by orthomodular posets $\mathcal{P} = (P, \leq, ', 0, 1)$ gives rise to the question, when a finite subset A of P lies within a Boolean subalgebra of $\mathcal{P}$, in which case A is called Boolean. Boolean subsets A specify the physical subsystem represented by A to be classical. We give a characterization of a subset of P to be Boolean by only taking into account terms of elements of this subset and in such a way that an inductive algorithm can be derived.

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