Model-Theoretic Investigations into Consequence Operation (Cn) in Quantum Logics. An Algebraic Approach.

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Abstract

In this paper, we present the fundamentals of the so-called algebraic approach to propositional quantum logics. We define the set of formulae describing quantum reality as a free algebra freely generated by the set of quantum propositional variables. We define the general notion of logic as a structural consequence operation. Next, we introduce the concept of logical matrices understood as a model of quantum logics. We give the definitions of two quantum consequence operations defined in these models.

Keywords:	abstract algebraic logic; consequence operation; logical matrices; models of quantum logics.
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