

Refutation of axiom of probability for quantum theory

© Copyright 2018 by Colin James III All rights reserved.

Abstract: An axiom of probability theory is refuted and hence is unusable for quantum theory.

We assume the method and apparatus of Meth8/VL4 with Tautology as the designated *proof* value, **F** as contradiction, **N** as truthity (non-contingency), and **C** as falsity (contingency). Results are a 16-valued truth table in row-major and horizontal, or repeating fragments of 128-tables for more variables.

LET $p, q, r, s: A, a, B, b;$
 \sim Not; $+$ Or; $-$ Not Or; $\&$ And, $\cap;$ $>$ Imply;
% possibility, for any one or some, \exists # necessity, for every or all, \forall .
(s=s) **T** tautology; (s@#s) **F** contradiction;
(%s>#s) 1, **N** truthity; (%s<#s) 0, **C** falsity;

From: Nagata, K.; Nakamura, T. (2014). Reply to "Comments on 'There is No Axiomatic System for the Quantum Theory'". vixra.org/pdf/1309.0083v2.pdf

From axioms of probability theory, we have: $P(A = a \cap B = b) = P(B = b \cap A = a)$. (4.1)

We ignore the symbol P for probability here.

$((p=(q\&r))=s)=((r=(s\&p))=q);$ **TFFT FTFT FFTT TTTT** (4.2)

Eqs. 4.1 as rendered are *not* tautologous. This refutes that axiom from probability theory as it applies to quantum theory.