

We assume the method and apparatus of Meth8/VL4 with τ autology 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 \sim Not; $+$ Or; $\&$ And; $>$ Imply; $=$ Equivalent; $@$ Not Equivalent

$\%$ possibility, for one or some; $\#$ necessity, for all or every; $(p@p)$ F contradiction.

Remark: Equations are not reproduced from the cited pdf files due to non-portable characters.

From: Olkhovikov, G.K.; Wansing, H. (2017). Inference as doxastic agency. Part II: Ramifications and refinements. ojs.victoria.ac.nz/ajl/article/view/3973/3625

$$\text{LET } p, q: K, A \\ (p\&q)>(\#p\&\#q); \quad \text{TTTN TTTN TTTN TTTN} \quad (\text{A8})$$

$$\text{LET } p, q, r, s: K, E, x, y \\ (p\&((\sim\#q\&r)+(\#q\&s))>((\sim q\&r)+(q\&s)); \quad \text{TTTT TTTT TTTN TTTT} \quad (\text{at R4})$$

$$\text{LET } p, q, r, s: E, q, t, s \\ ((p\&(s+r))>((p\&s)\&(p\&r)))\&((p\&(s\&r))>(p\&r)); \quad \text{TTTT TFTF TFTF TTTT} \quad (\text{at R4'})$$

From: Olkhovikov, G.K. (2017). Explicit justification stit logic: a completeness result. arxiv.org/pdf/1709.06893.pdf

$$\text{LET } A, B; A, K \\ (B\&A)>\#A; \quad \text{TTTT TNTN TTTT TNTN} \quad (\text{T0})$$

$$(B\&A)>(\#B\&\#A); \quad \text{TTTT TNTN TTTT TNTN} \quad (\text{36})$$

$$\text{LET } p, q, r, s: K, B, C, D \\ (p\&s)>q; \quad \text{TTTT TTTT TFTT TFTT} \quad (\text{45})$$

$$p\&((p\&s)>q); \quad \text{FTFT FTFT FFFT FFFT} \quad (\text{46})$$

$$(p\&s)>(p\&q); \quad \text{TTTT TTTT TFTF TFTF} \quad (\text{47})$$

$$(p\&q)>r; \quad \text{TFTF TTTT TFTF TTTT} \quad (\text{48})$$

$$(p\&s)>r; \quad \text{TTTT TTTT TFTF TTTT} \quad (\text{49})$$

From: Olkhovikov, G.K. (2017). A completeness result for implicit justification stit logic. arxiv.org/pdf/1705.09119.pdf

$$(\sim(A+B)\&(\sim A\&\sim B))>(A@A); \quad \text{FCNT CCTT NTNT TTTT} \quad (\text{pg14})$$

From: Olkhovikov, G.K. (2018). Restricted interpolation and lack thereof in Stit logic. arxiv.org/pdf/1804.08306.pdf

$$\text{LET } p, q, r, s: A, B, C, j \text{ [iterated equation]} \\ (\#p\&(\%s\&q))>(\%s\&r); \quad \text{TTTT TTTT TTTC TTTT} \quad (\text{16})$$

$$p>\#p; \quad \text{TNTN TNTN TNTN TNTN} \quad (\text{Nec})$$

The 13 equations above are *not* tautologous. Hence Stit logic is refuted.