

Equation assignment sequence for variable k_{xN}^c

no	var	equ	quations	token
94	V ₁₄₇	-	$P_{NK} ::$ port variable	
93	V ₁₈₃	-	$k^{d,Fick}_{NS} ::$ port variable	
92	V ₂₀₀	-	$I_{NS,AS} ::$ port variable	
91	V ₁₅₅	-	$B ::$ port variable	
90	V ₁₂	-	$r_{zN} ::$ port variable	
89	V ₁₁	-	$r_{yN} ::$ port variable	
88	V ₂₀₁	-	$I_{N,A} ::$ port variable	
87	V ₃₈	-	$K^o_K ::$ port variable	
86	V ₃₃	-	$P_{K,NK} ::$ port variable	
85	V ₁₅₈	-	$N_{K,KS} ::$ port variable	
84	V ₉₀	-	$D_{N,A} ::$ port variable	
83	V ₉₁	-	$D_{NS,AS} ::$ port variable	
82	V ₃₆	-	$P_{NS,KS} ::$ port variable	
81	V ₃₅	-	$P_{N,NK} ::$ port variable	
80	V ₈	-	$F_{N,A} ::$ port variable	
79	V ₇₀	-	$F_{NS,AS} ::$ port variable	
78	V ₁₂₇	-	$1_S ::$ port variable	
77	V ₁	-	$\# ::$ port variable	

Continued on next page

no	var	equ	quations	token
76	V ₁₄	-	$S_N :: \text{port variable}$	
75	V ₂₄	-	$A^v :: \text{port variable}$	
74	V ₅	-	$t :: \text{port variable}$	
73	V ₁₀	-	$r_{xN} :: \text{port variable}$	
72	V ₄₀	-	$\lambda_S :: \text{port variable}$	
71	V ₁₅	-	$V_N :: \text{port variable}$	
70	V ₁₃	-	$U_N :: \text{port variable}$	
69	V ₄₁	E ₂₀	$_ \lambda_S := \lambda_S$	
68	V ₅₇	E ₃₆	$m_N := _ \lambda_S \overset{S \in NS}{\star} n_{NS}$	
67	V ₆₇	E ₄₅	$_ c_{NS} := c_{NS}$	
66	V ₅₈	E ₃₇	$_ m_N := m_N$	
65	V ₅₂	E ₃₁	$k_{xNS}^d := (\mu_{NS})^{-1} \cdot \left(v_{xN} \odot \left((V_N)^{-1} \odot \frac{\partial U_N}{\partial \mu_{NS}} \right) \right)$	
64	V ₁₅₂	E ₁₂₄	$c_{NK,KS}^o := \text{Instantiate}(c_{NK,KS}, \#)$	
63	V ₁₅₁	E ₁₂₃	$c_{NK,KS} := P_{NK} \cdot \left(P_{NS,KS} \overset{NS}{\star} _ c_{NS} \right)$	
62	V ₅₉	E ₃₈	$\rho_N := _ m_N \cdot (V_N)^{-1}$	
61	V ₅₆	E ₃₅	$h_{NS} := H_N \odot (n_{NS})^{-1}$	
60	V ₁₈₈	E ₁₅₄	$k_{AS}^{d,Fick} := I_{NS,AS} \overset{NS}{\star} k_{NS}^{d,Fick}$	
59	V ₁₉₄	E ₁₆₀	$k_{xAS}^d := I_{NS,AS} \overset{NS}{\star} k_{xNS}^d$	
58	V ₆₂	E ₄₁	$E_{NK}^a := \text{Instantiate}(R.T_{NK}, \#)$	
57	V ₆₀	E ₃₉	$T_{NK} := P_{N,NK} \overset{N}{\star} T_N$	

Continued on next page

no	var	equ	quations	token
56	V ₁₅₇	E ₁₂₇	$R := A^v . B$	
55	V ₁₅₃	E ₁₂₅	$x_{NK,KS} := (c_{NK,KS}^o)^{-1} . c_{NK,KS}$	
54	V ₉₇	E ₇₂	$d_A := \text{sign} \left(F_{N,A} \stackrel{N}{\star} p_N \right)$	
53	V ₄	E ₃	$0.5 := \text{Instantiate}(\#, \#)$	
52	V ₈₁	E ₅₈	$_k_{xN}^c := k_{xN}^c$	
51	V ₇₄	E ₅₁	$_\rho_N := \rho_N$	
50	V ₇₁	E ₄₈	$A_{yzN} := r_{yN} . r_{zN}$	
49	V ₇₅	E ₅₂	$_h_{NS} := h_{NS}$	
48	V ₆₆	E ₄₄	$c_{NS} := (V_N)^{-1} \odot n_{NS}$	
47	V ₂₀₅	E ₁₆₉	$_k_{AS}^{d,Fick,A} := k_{AS}^{d,Fick}$	
46	V ₂₁₅	E ₁₇₉	$A_{yzA} := I_{N,A} \stackrel{N}{\star} A_{yzN}$	
45	V ₂₀₉	E ₁₇₃	$_k_{xAS}^d := k_{xAS}^d$	
44	V ₆₃	E ₄₂	$K_{NK} := K_K^o \odot \exp((-E_{NK}^a) . (R . T_{NK})^{-1})$	
43	V ₁₆₀	E ₁₂₉	$\phi_{NK} := \prod_{KS} x_{NK,KS}^{N_{NK,KS}}$	
42	V ₁₅₉	E ₁₂₈	$N_{NK,KS} := P_{K,NK} \stackrel{K}{\star} N_{K,KS}$	
41	V ₉₈	E ₇₃	$c_{AS} := (0.5 . (F_{NS,AS} - d_A \odot F_{NS,AS})) \stackrel{NS}{\star} c_{NS}$	
40	V ₉₂	E ₁₄₀	$\hat{V}_A := \text{Instantiate}(\hat{V}_A, \#)$	
39	V ₉₂	E ₆₇	$\hat{V}_A := (_ \rho_N)^{-1} . _k_{xN}^c . A_{yzN} . D_{N,A} \stackrel{N}{\star} p_N$	
38	V ₉₅	E ₇₀	$\hat{H}_A^d := \left(F_{NS,AS} \stackrel{NS}{\star} _h_{NS} \right) \stackrel{S \in AS}{\star} \hat{n}_{AS}^d$	
37	V ₁₀₆	E ₈₁	$\hat{q}_{xA} := (A_{yzN} . _k_{xN}^q . D_{N,A}) \stackrel{N}{\star} T_N$	

Continued on next page

no	var	equ	quations	token
36	V ₁₀₄	E ₇₉	$\hat{w}_A := \text{Instantiate}(\hat{H}_A^c, \#)$	
35	V ₁₀₂	E ₇₇	$\hat{H}_A^c := \left(F_{NS,AS} \overset{NS}{\star} _h_{NS} \right) \overset{S \in AS}{\star} \hat{n}_{AS}^c$	
34	V ₉₃	E ₁₅₂	$\hat{n}_{AS}^d := A_{yzA} \odot \left(_k^{d,Fick,A}_{AS} \right) \cdot D_{NS,AS} \overset{NS}{\star} c_{NS}$	
33	V ₉₃	E ₆₈	$\hat{n}_{AS}^d := A_{yzA} \odot \left(_k^{d,x}_{AS} \right) \cdot D_{NS,AS} \overset{NS}{\star} \mu_{NS}$	
32	V ₁₆₃	E ₁₃₀	$\tilde{n}_{NS} := V_N \overset{N}{\star} \left(P_{N,NK} \overset{NK}{\star} \left((K_{NK} \cdot \phi_{NK}) \cdot \left(P_{NS,KS} \overset{KS}{\star} N_{NK,KS} \right) \right) \right)$	
31	V ₉₉	E ₇₄	$\hat{n}_{AS}^c := \hat{V}_A \odot c_{AS}$	
30	V ₄₂	E ₂₁	$C_{pN} := \frac{\partial H_N}{\partial T_N}$	
29	V ₉₆	E ₇₁	$\hat{H}_N^d := F_{N,A} \overset{A}{\star} \hat{H}_A^d$	
28	V ₁₀₇	E ₈₂	$\hat{q}_N := F_{N,A} \overset{A}{\star} \hat{q}_{xA}$	
27	V ₁₀₅	E ₈₀	$\hat{w}_N := F_{N,A} \overset{A}{\star} \hat{w}_A$	
26	V ₁₀₃	E ₇₈	$\hat{H}_N^c := F_{N,A} \overset{A}{\star} \hat{H}_A^c$	
25	V ₉₄	E ₆₉	$\hat{n}_{NS}^d := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^d$	
24	V ₁₆₄	E ₁₃₁	$_ \tilde{n}_{NS} := \tilde{n}_{NS}$	
23	V ₁₀₀	E ₇₅	$\hat{n}_{NS}^c := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^c$	
22	V ₈₂	E ₅₉	$_C p_N := C_{pN}$	
21	V ₂₁₈	E ₁₈₃	$T_N^{ref} := \text{Instantiate}(T_N, -)$	
20	V ₁₀₈	E ₈₃	$\dot{H}_N := \hat{H}_N^c + \hat{H}_N^d + \hat{q}_N + \hat{w}_N$	
19	V ₇	E ₅	$t^e := \text{Instantiate}(t, \#)$	
18	V ₆	E ₄	$t^o := \text{Instantiate}(t, \#)$	
17	V ₁₁₀	E ₈₅	$n_{NS}^o := \text{Instantiate}(n_{NS}, \#)$	

Continued on next page

no	var	equ	quations	token
16	V ₁₀₁	E ₇₆	$\dot{n}_{NS} := \hat{n}_{NS}^c + \hat{n}_{NS}^d + _ \tilde{n}_{NS}$	
15	V ₂₀	E ₁₈₄	$H_N := _ C p_N \cdot (T_N - T^{ref}_N)$	
14	V ₂₀	E ₉	$H_N := U_N - p_N \cdot V_N$	
13	V ₂₀	E ₈₇	$H_N := \int_{t^o}^{t^e} \dot{H}_N \, dt$	
12	V ₁₆₈	E ₁₃₄	$n_{tN} := 1_S \overset{S \in NS}{\star} n_{NS}$	
11	V ₁₆₅	E ₁₃₂	$B_N := \text{Instantiate}(S_N, \#)$	
10	V ₁₆	E ₈₆	$n_{NS} := \int_{t^o}^{t^e} \dot{n}_{NS} \, dt + n_{NS}^o$	
9	V ₁₈	E ₁₈₅	$T_N := \text{Root}(H_N)$	
8	V ₁₈	E ₁₉₁	$T_N := \text{Root}(0_N)$	
7	V ₁₈	E ₇	$T_N := \frac{\partial U_N}{\partial S_N}$	
6	V ₁₆₉	E ₁₃₅	$\xi_{NS} := (n_{tN})^{-1} \odot n_{NS}$	
5	V ₁₆₆	E ₁₃₃	$R_N := A^v \cdot B_N$	
4	V ₂₈	E ₁₅	$v_{xN} := \frac{\partial r_{xN}}{\partial t}$	
3	V ₁₉	E ₈	$\mu_{NS} := \frac{\partial U_N}{\partial n_{NS}}$	
2	V ₁₉	E ₁₃₆	$\mu_{NS} := (R_N \cdot T_N) \odot \ln(\xi_{NS})$	
1	V ₁₇	E ₆	$p_N := \left(-\frac{\partial U_N}{\partial V_N} \right)$	
0	V ₄₈	E ₂₇	$k_{xN}^c := \left(\lambda_S \overset{S \in NS}{\star} (\mu_{NS})^{-1} \right) \cdot (V_N)^{-1} \cdot \frac{\partial U_N}{\partial p_N} \cdot v_{xN}$	