

## Equation assignment sequence for variable $H$

no	var	equ	quations	token
67	12	-	$S_N :: \text{port variable}$	
66	26	-	$A^v :: \text{port variable}$	
65	64	-	$P_{NS,KS} :: \text{port variable}$	
64	88	-	$K^o_K :: \text{port variable}$	
63	62	-	$P_{N,NK} :: \text{port variable}$	
62	86	-	$N_{S,K} :: \text{port variable}$	
61	61	-	$P_{S,NS} :: \text{port variable}$	
60	60	-	$P_{K,NK} :: \text{port variable}$	
59	63	-	$P_{NK,KS} :: \text{port variable}$	
58	11	-	$U_N :: \text{port variable}$	
57	13	-	$V_N :: \text{port variable}$	
56	23	-	$r_{zN} :: \text{port variable}$	
55	10	-	$r_{yN} :: \text{port variable}$	
54	59	-	$P_{NS,AS} :: \text{port variable}$	
53	128	-	$D_{NS,AS} :: \text{port variable}$	
52	127	-	$D_{N,A} :: \text{port variable}$	
51	5	-	$F_{N,A} :: \text{port variable}$	
50	1	-	$\# :: \text{port variable}$	
49	6	-	$t :: \text{port variable}$	

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no	var	equ	quations	token
48	27	16	$Bo_N := \text{Instantiate}(S_N, \#)$	
47	87	64	$E_{a_{NK}} := \text{Instantiate}(P_{N,NK} \overset{N}{\star} R_N . T_{NK}, \#)$	
46	28	17	$R_N := A^v . Bo_N$	
45	115	91	$c_{KS}^o := \text{Instantiate}(c_{KS}, \#)$	
44	114	90	$c_{KS} := c_{NS} \overset{NS}{\star} P_{NS,KS}$	
43	77	55	$T_{NK} := P_{N,NK} \overset{N}{\star} T_N$	
42	89	65	$K_{NK} := K^o_K \odot \exp((-E_{a_{NK}}) . (R_N \overset{N}{\star} P_{N,NK} . T_{NK})^{-1})$	
41	116	92	$\phi_{KS} := \prod (c_{KS} . (c_{KS}^o)^{-1})$	
40	71	49	$\rho_N := m_N . (V_N)^{-1}$	
39	65	46	$d_A := \text{sign} (F_{N,A} \overset{N}{\star} p_N)$	
38	4	3	$0.5 := \text{Instantiate}(\#, \#)$	
37	108	84	$c_{NS} := (V_N)^{-1} \odot n_{NS}$	
36	93	69	$N_{NS,NK} := P_{S,NS} \overset{S}{\star} ((P_{K,NK} . T_{NK} . (T_{NK})^{-1}) \overset{K}{\star} N_{S,K})$	
35	117	93	$\xi_{NK} := K_{NK} . P_{NK,KS} \overset{KS}{\star} \phi_{KS}$	
34	98	74	$\hat{V}_A := (\rho_N)^{-1} . k_{xN}^c . A_{yzN} . D_{N,A} \overset{N}{\star} p_N$	
33	109	85	$c_{AS} := (0.5 . (F_{NS,AS} - d_A \odot  F_{NS,AS} )) \overset{NS}{\star} c_{NS}$	
32	45	32	$\mu_{NS} := \frac{\partial U_N}{\partial n_{NS}}$	
31	118	94	$\tilde{n}_{NS} := V_N \odot (N_{NS,NK} \overset{NK}{\star} \xi_{NK})$	
30	111	87	$\hat{n}_{NS}^c := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^c$	
29	105	81	$\hat{n}_{NS}^d := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^d$	

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no	var	equ	quations	token
28	95	71	$A_{yzN} := r_{yN} \cdot r_{zN}$	
27	110	86	$\hat{n}_{AS}^c := \hat{V}_A \odot c_{AS}$	
26	73	51	$F_{NS,AS} := F_{N,A} \odot P_{NS,AS}$	
25	58	45	$h_{NS} := H_N \odot (n_{NS})^{-1}$	
24	104	80	$\hat{n}_{AS}^d := A_{yzN} \odot (-k_{xNS}^d) \cdot D_{NS,AS} \overset{NS}{\star} \mu_{NS}$	
23	150	124	$n_{NS}^o := \text{Instantiate}(n_{NS}, \#)$	
22	119	95	$\dot{n}_{NS} := \hat{n}_{NS}^c + \hat{n}_{NS}^d + \tilde{n}_{NS}$	
21	119	129	$\dot{n}_{NS} := \text{Instantiate}(\dot{n}_{NS}, 0)$	
20	124	100	$\hat{q}_A := A_{yzN} \cdot k_{xN}^q \cdot D_{N,A} \overset{N}{\star} T_N$	
19	122	98	$\hat{w}_A := \text{Instantiate}(\hat{H}_A^c, \#)$	
18	120	96	$\hat{H}_A^c := \left( F_{NS,AS} \overset{NS}{\star} h_{NS} \right) \overset{S \in AS}{\star} \hat{n}_{AS}^c$	
17	106	82	$\hat{H}_A^d := \left( F_{NS,AS} \overset{NS}{\star} h_{NS} \right) \overset{S \in AS}{\star} \hat{n}_{AS}^d$	
16	42	116	$n_{NS} := \int_{t_o}^{t_e} \dot{n}_{NS} \, dt + n_{NS}^o$	
15	30	18	$C_{pN} := \frac{\partial H_N}{\partial T_N}$	
14	125	101	$\hat{q}_N := F_{N,A} \overset{A}{\star} \hat{q}_A$	
13	123	99	$\hat{w}_N := F_{N,A} \overset{A}{\star} \hat{w}_A$	
12	121	97	$\hat{H}_N^c := F_{N,A} \overset{A}{\star} \hat{H}_A^c$	
11	107	83	$\hat{H}_N^d := F_{N,A} \overset{A}{\star} \hat{H}_A^d$	
10	2	1	$0 := \text{Instantiate}(\#, \#)$	
9	69	47	$m_N := \lambda_S \overset{S \in NS}{\star} n_{NS}$	

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no	var	equ	quations	token
8	148	120	$c_{pN} := C_{pN} \cdot (m_N)^{-1}$	
7	145	117	$T_{refN} := \text{Instantiate}(T_N, \#)$	
6	8	5	$t_e := \text{Instantiate}(t, \#)$	
5	7	4	$t_o := \text{Instantiate}(t, \#)$	
4	151	125	$H^o_N := \text{Instantiate}(H_N, \#)$	
3	126	102	$\dot{H}_N := \hat{H}^c_N + \hat{H}^d_N + \hat{q}_N + \hat{w}_N$	
2	126	128	$\dot{H}_N := \text{Instantiate}(\dot{H}_N, 0)$	
1	18	122	$H_N := m_N \cdot \int_{T_{refN}}^{T_N} c_{pN} dT_N$	
0	18	123	$H_N := \int_{t_o}^{t_e} \dot{H}_N dt + H^o_N$	