Equation assignment sequence for variable *phi*

no	var	equ	quations	token
72	12	-	S_N :: port variable	
71	26	-	A^v :: port variable	
70	64	-	$P_{NS,KS}$ :: port variable	
69	88	-	${K^o}_K$ :: port variable	
68	62	-	$P_{N,NK}$ :: port variable	
67	23	-	r_{zN} :: port variable	
66	10	-	r_{yN} :: port variable	
65	86	-	$N_{S,K}$ :: port variable	
64	61	-	$P_{S,NS}$ :: port variable	
63	60	-	$P_{K,NK}$ :: port variable	
62	63	-	$P_{NK,KS}$ :: port variable	
61	59	-	$P_{NS,AS}$ :: port variable	
60	128	-	$D_{NS,AS}$ :: port variable	
59	127	-	$D_{N,A}$ :: port variable	
58	13	-	V_N :: port variable	
57	5	-	$F_{N,A}$ :: port variable	
56	1	-	# :: port variable	
55	6	-	t :: port variable	
54	27	16	$Bo_N :=$ Instantiate$(S_N, \#)$	

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no	var	equ	quations	token
53	87	64	$E_{aNK} := \text{Instantiate}(P_{N,NK} \overset{N}{\star} R_N \,.\, T_{NK}, \#)$	
52	28	17	$R_N := A^v \,.\, Bo_N$	
51	115	91	$c^o{}_{KS} := \text{Instantiate}(c_{KS}, \#)$	
50	114	90	$c_{KS} := c_{NS} \overset{NS}{\star} P_{NS,KS}$	
49	71	154	$\rho_N := \text{Instantiate}(\rho_N, \#)$	
48	71	49	$\rho_N := m_N \,.\, (V_N)^{-1}$	
47	50	134	$k^c_{xN} := \text{Instantiate}(k^c_{xN}, \#)$	
46	15	115	$p_N := \text{Instantiate}(p_N, \#)$	
45	65	46	$d_A := \text{sign}\left(F_{N,A} \overset{N}{\star} p_N\right)$	
44	4	3	$0.5 := \text{Instantiate}(\#, \#)$	
43	108	127	$c_{NS} := \text{Instantiate}(c_{NS}, \#)$	
42	108	84	$c_{NS} := (V_N)^{-1} \odot n_{NS}$	
41	77	55	$T_{NK} := P_{N,NK} \overset{N}{\star} T_N$	
40	89	65	$K_{NK} := K^o{}_K \odot exp((-E_{aNK}) \,.\, \left(R_N \overset{N}{\star} P_{N,NK} \,.\, T_{NK}\right)^{-1})$	
39	116	92	$\phi_{KS} := \prod \left(c_{KS} \,.\, (c^o{}_{KS})^{-1}\right)$	
38	98	74	$\hat{V}_A := (\rho_N)^{-1} \,.\, k^c_{xN} \,.\, A_{yzN} \,.\, D_{N,A} \overset{N}{\star} p_N$	
37	109	85	$c_{AS} := (0.5 \,.\, (F_{NS,AS} - d_A \odot \lvert F_{NS,AS} \rvert)) \overset{NS}{\star} c_{NS}$	
36	54	137	$k^d_{xNS} := \text{Instantiate}(k^d_{xNS}, \#)$	
35	45	114	$\mu_{NS} := \text{Instantiate}(\mu_{NS}, \#)$	
34	95	71	$A_{yzN} := r_{yN} \,.\, r_{zN}$	

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no	var	equ	quations	token
33	34	131	$k^q_{xN} := \text{Instantiate}(k^q_{xN}, \#)$	
32	58	139	$h_{NS} := \text{Instantiate}(h_{NS}, \#)$	
31	93	69	$N_{NS,NK} := P_{S,NS} \overset{S}{\star} \left(\left(P_{K,NK} \,.\, T_{NK} \,.\, (T_{NK})^{-1} \right) \overset{K}{\star} N_{S,K} \right)$	
30	117	93	$\xi_{NK} := K_{NK} \,.\, P_{NK,KS} \overset{KS}{\star} \phi_{KS}$	
29	110	86	$\hat{n}^c{}_{AS} := \hat{V}_A \odot c_{AS}$	
28	73	51	$F_{NS,AS} := F_{N,A} \odot P_{NS,AS}$	
27	104	80	$\hat{n}^d{}_{AS} := A_{yzN} \odot \left(-k^d_{xNS} \right) \,.\, D_{NS,AS} \overset{NS}{\star} \mu_{NS}$	
26	124	100	$\hat{q}_A := A_{yzN} \,.\, k^q_{xN} \,.\, D_{N,A} \overset{N}{\star} T_N$	
25	122	98	$\hat{w}_A := \text{Instantiate}(\hat{H}^c{}_A, \#)$	
24	120	96	$\hat{H}^c{}_A := \left(F_{NS,AS} \overset{NS}{\star} h_{NS} \right) \overset{S \in AS}{\star} \hat{n}^c{}_{AS}$	
23	106	82	$\hat{H}^d{}_A := \left(F_{NS,AS} \overset{NS}{\star} h_{NS} \right) \overset{S \in AS}{\star} \hat{n}^d{}_{AS}$	
22	118	94	$\tilde{n}_{NS} := V_N \odot \left(N_{NS,NK} \overset{NK}{\star} \xi_{NK} \right)$	
21	111	87	$\hat{n}^c{}_{NS} := F_{NS,AS} \overset{AS}{\star} \hat{n}^c{}_{AS}$	
20	105	81	$\hat{n}^d{}_{NS} := F_{NS,AS} \overset{AS}{\star} \hat{n}^d{}_{AS}$	
19	125	101	$\hat{q}_N := F_{N,A} \overset{A}{\star} \hat{q}_A$	
18	123	99	$\hat{w}_N := F_{N,A} \overset{A}{\star} \hat{w}_A$	
17	121	97	$\hat{H}^c{}_N := F_{N,A} \overset{A}{\star} \hat{H}^c{}_A$	
16	107	83	$\hat{H}^d{}_N := F_{N,A} \overset{A}{\star} \hat{H}^d{}_A$	
15	29	142	$\lambda_S := \text{Instantiate}(\lambda_S, \#)$	
14	150	124	$n^o{}_{NS} := \text{Instantiate}(n_{NS}, \#)$	

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no	var	equ	quations	token
13	119	95	$\dot{n}_{NS} := \hat{n^c}_{NS} + \hat{n^d}_{NS} + \tilde{n}_{NS}$	
12	8	5	$t_e := \text{Instantiate}(t, \#)$	
11	7	4	$t_o := \text{Instantiate}(t, \#)$	
10	151	125	$H^o{}_N := \text{Instantiate}(H_N, \#)$	
9	126	102	$\dot{H}_N := \hat{H^c}_N + \hat{H^d}_N + \hat{q}_N + \hat{w}_N$	
8	69	47	$m_N := \lambda_S \overset{S \in NS}{\star} n_{NS}$	
7	16	113	$T_N := \text{Instantiate}(T_N, \#)$	
6	148	140	$cp_N := \text{Instantiate}(cp_N, \#)$	
5	148	120	$cp_N := C_{pN} \,.\, (m_N)^{-1}$	
4	145	117	$T_ref_N := \text{Instantiate}(T_N, \#)$	
3	42	116	$n_{NS} := \int_{t_o}^{t_e} \dot{n}_{NS} \; dt + n^o{}_{NS}$	
2	18	123	$H_N := \int_{t_o}^{t_e} \dot{H}_N \; dt + H^o{}_N$	
1	18	122	$H_N := m_N \,.\, \int_{T_ref_N}^{T_N} cp_N \; dT_N$	
0	153	130	$phi := \text{MixedStack}\,(n_{NS}, H_N)$	