1 Variables

2 root

	var	symbol	documentation	type	units	eqs
15	$S_{N,q,t}$	S_Nqt	selection matrix or splitter	network		
6	$F^{sink}{}_{A,I}$	F_AI_sink	incidence matrix AI sink	network		
27	$I_{N,A}$	I_NA	identity mapping from <N> to <A>	network		
12	$S_{A,p}$	S_Ap	selection matrix interface species-related measures	network		
18	cz_I	cz_I	interface variable macro –> control	network		
16	mv_I	mv_I	interface variable macro –> control	network		
19	$A_{N,p,q}$	A_Npq	mapping from inputs to outputs	network		
11	$I_{t,u}$	I_tu	identity mapping from <t> to <u>	network		
13	$S_{I,q}$	S_Aq	selection matrix arcs to outputs	network		
8	$F^{sink}{}_{N,A}$	F_NA_sink	incidence matrix NA sink	network		
2	$F_{N,A}$	F	incidence matrix	network		
14	$S_{N,p,q}$	S_Npu	selection matrix for stacker	network		
5	$F^{source}{}_{A,I}$	F_AI_source	incidence matrix AI source	network		
4	$F^{sink}{}_{N,I}$	F_NI_sink	incidence matrix NI sink	network		
10	$S_{I,q}$	S_Iq	selection matrix interface to control output	network		
21	$u_{N,t,u}$	u_Ntu	input signal in control domain	network		
7	$F^{source}{}_{N,A}$	F_NA_source	incidence matrix NA source	network		
22	$y_{N,t,u}$	y_Ntu	output signal in control domain	network		
3	$F^{source}{}_{N,I}$	F_NI_source	incidence matrix NI source	network		
17	cz_N	cz_N	output from control	network		
20	$A_{N,t,u}$	A_Ntu	mapping from input elements to outputs	network		
9	$S_{I,p}$	S_Ip	selection matrix interface to control input	network		

Continued on next page

	var	symbol	documentation	type	units	eqs
1	t	`t`	time	frame	s	

3 physical

	var	symbol	documentation	type	units	eqs
24	r_{yN}	`r_y`	y-coordinate	frame	m	
25	r_{zN}	`r_z`	z-coordinate	frame	m	
23	r_{xN}	`r_x`	x-coordinate	frame	m	

4 reactions

	var	symbol	documentation	type	units	eqs
26	$N_{S,K}$	`N`	stoichiometric matrix	constant		

5 Equations