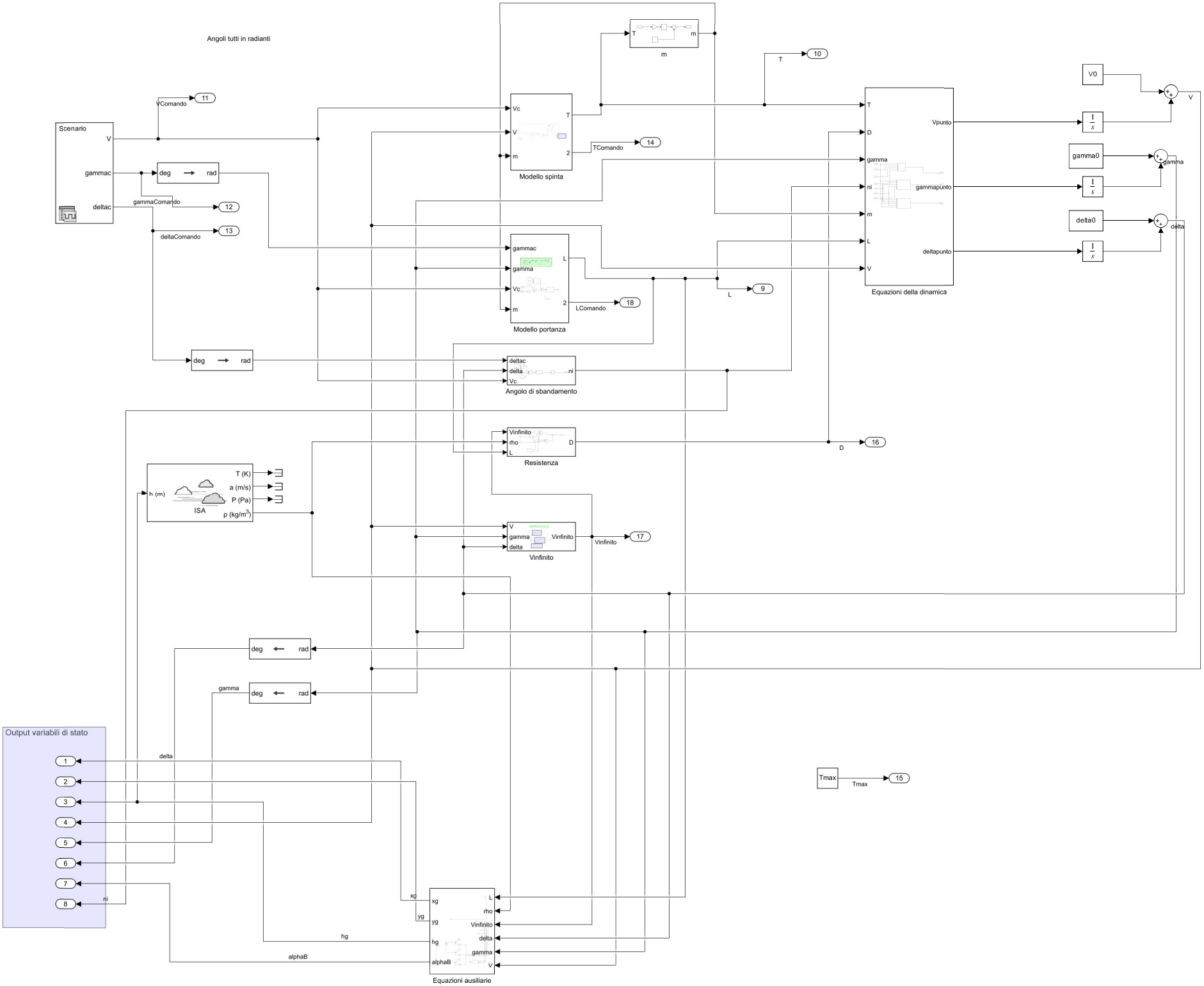
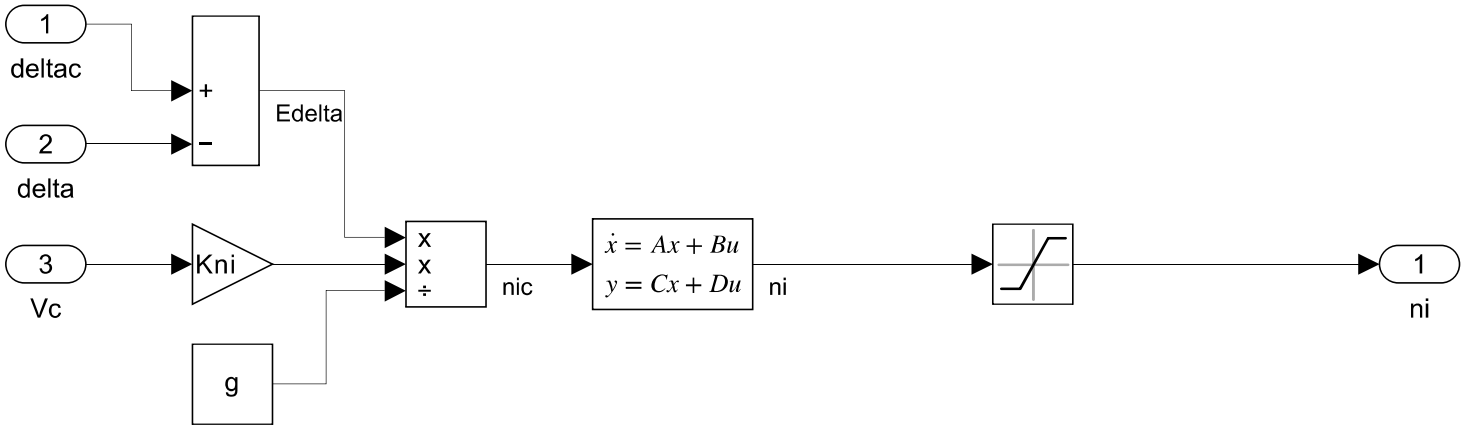
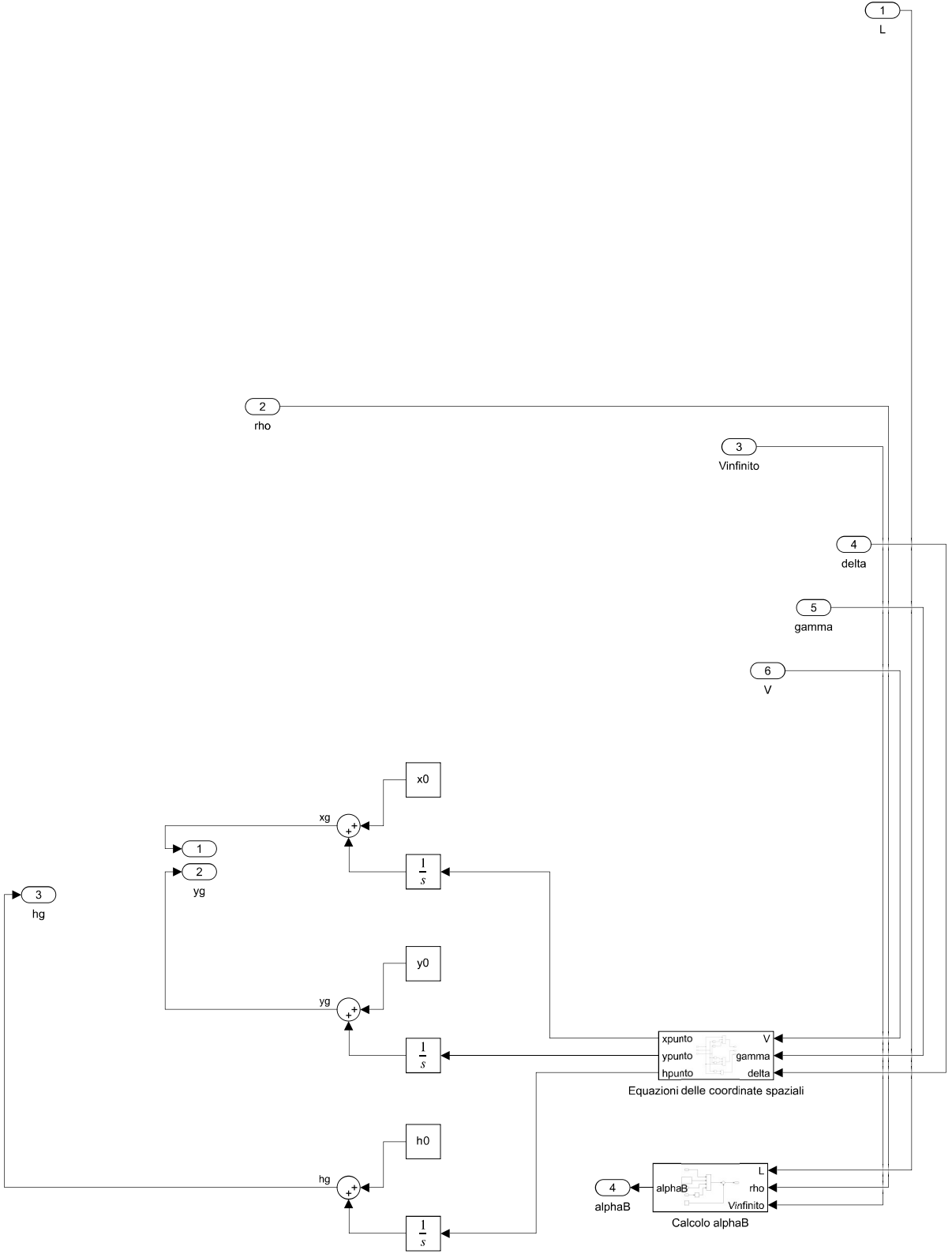
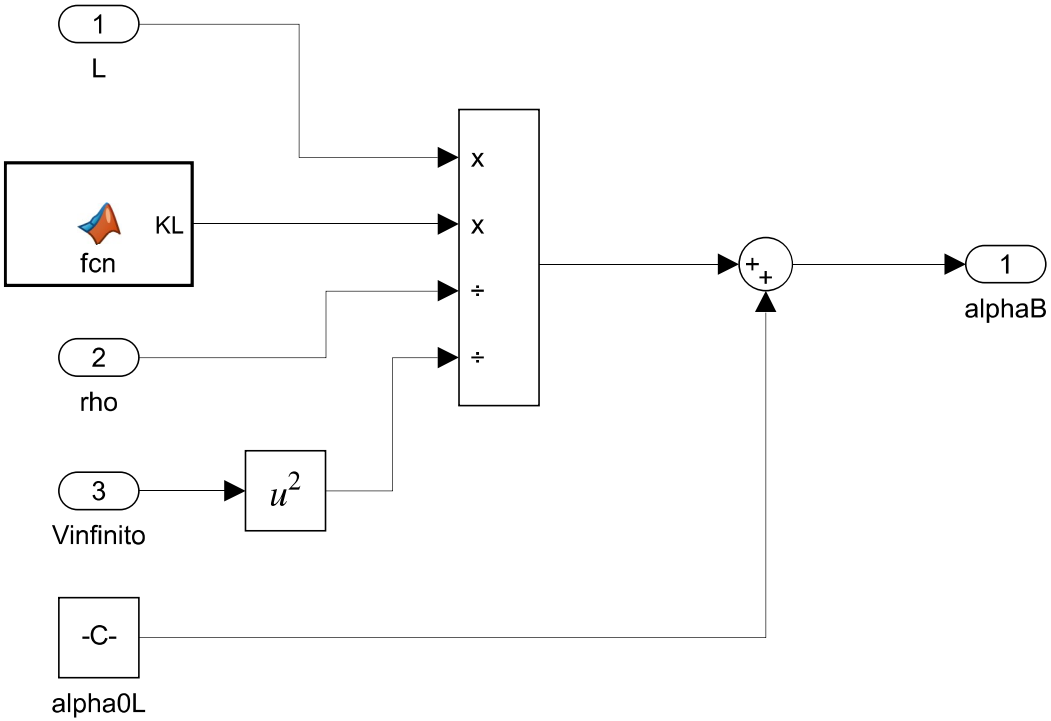
Impostare una T0 adeguata, inserire controlli sui valori massimi e una procedura per calcolare alphabody

Angoli tutti in radianti

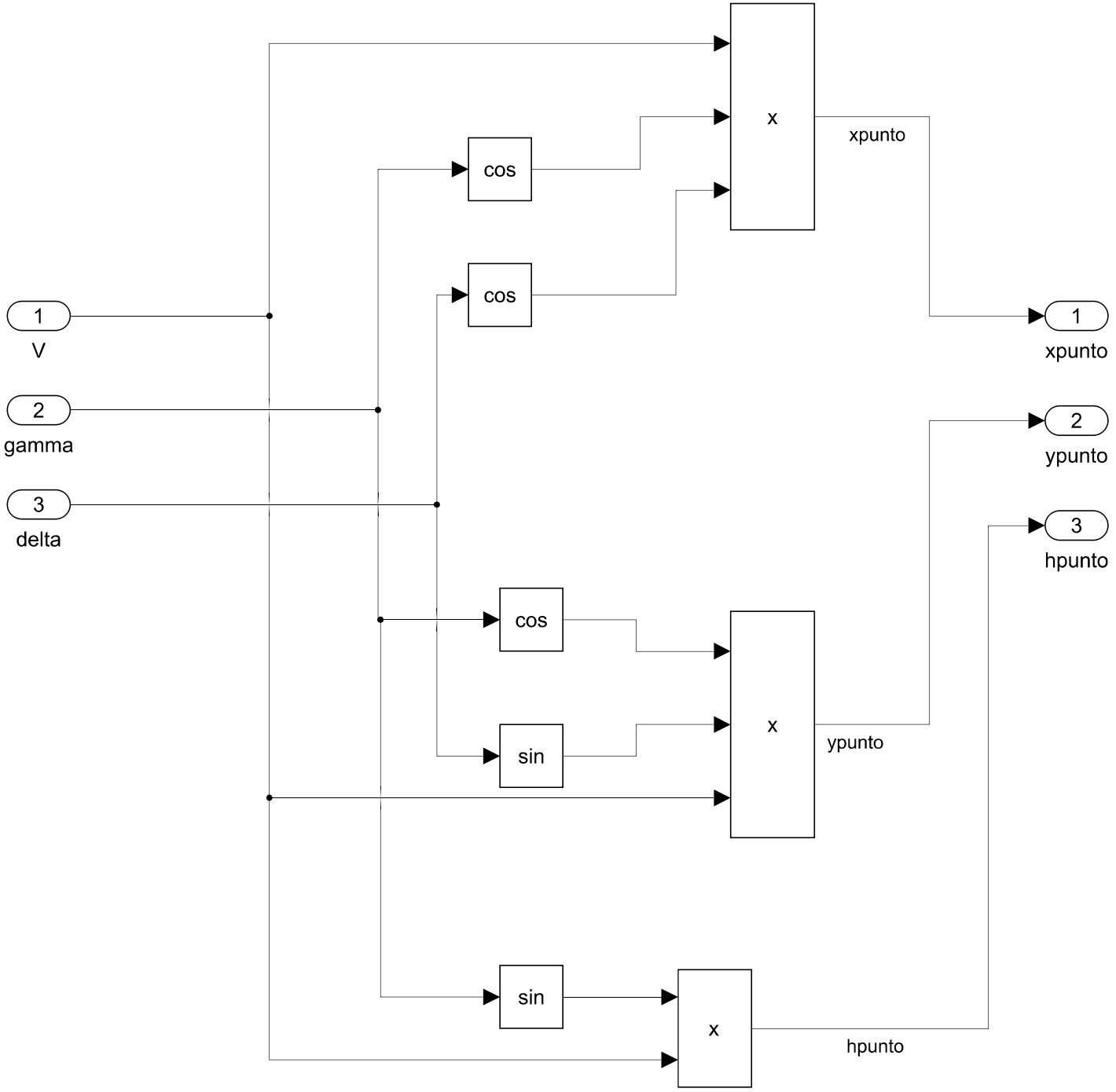


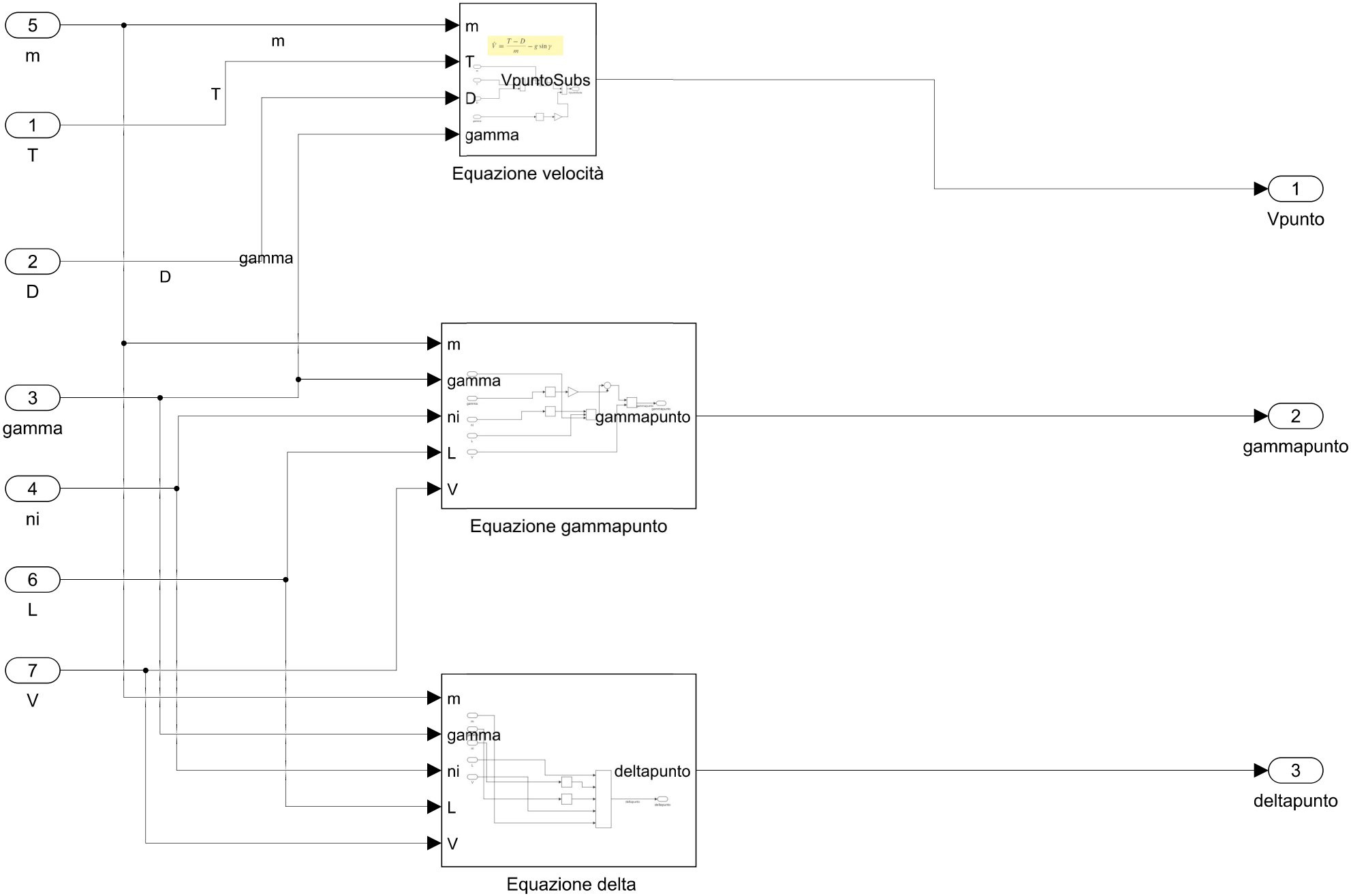

1
deltac
2
delta
3
Vc
+
−
Edelta
Kni
x
x
÷
nic
g
$\dot{x} = Ax + Bu$
$y = Cx + Du$
ni
1
ni

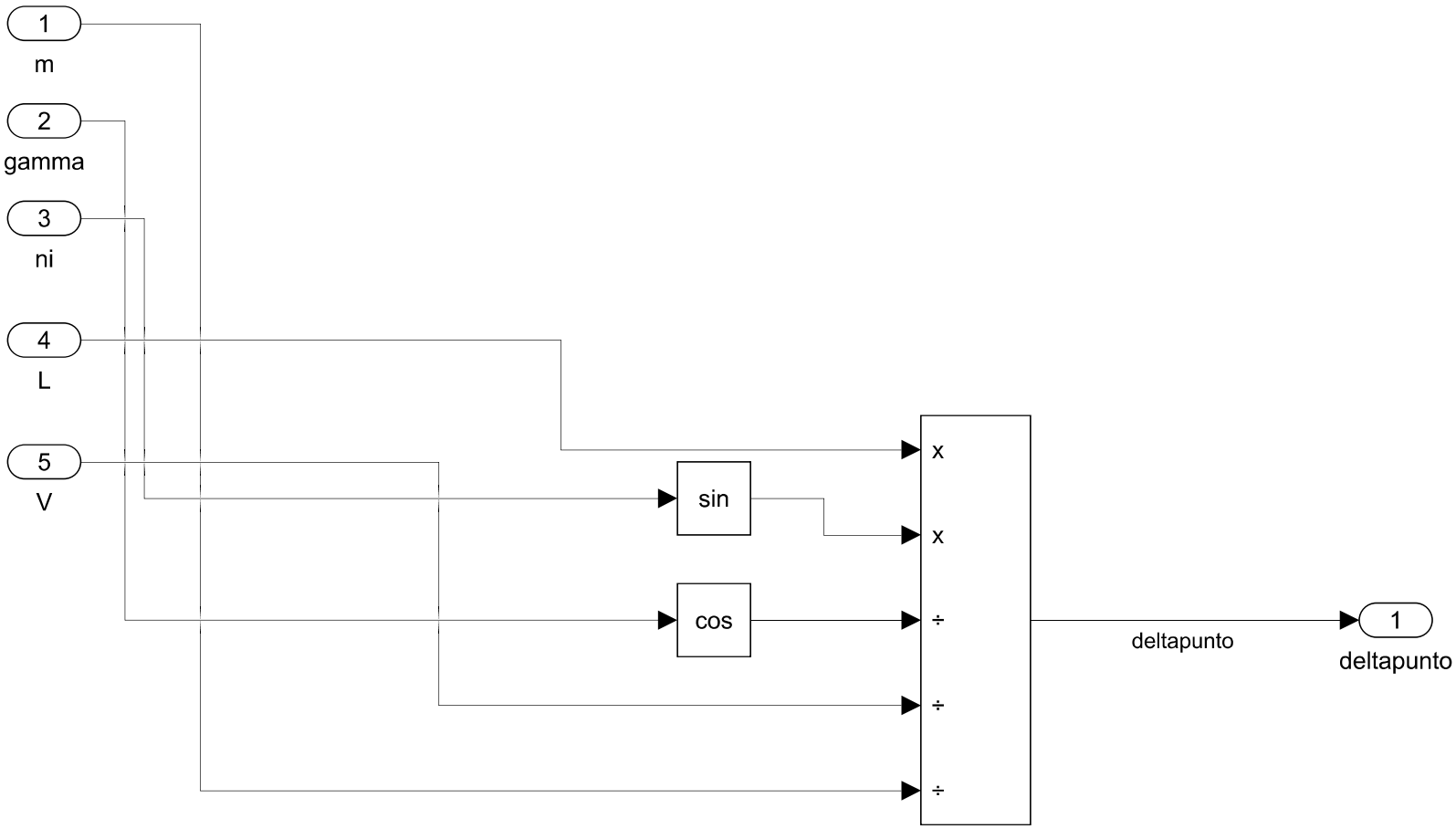

1
L
2
rho
3
Vinfinito
4
delta
5
gamma
6
V
x0
xg
1
2
yg
3
hg
y0
yg
h0
hg
1/s
xpunto
ypunto
hpunto
V
gamma
delta
Equazioni delle coordinate spaziali
4
alphaB
L
rho
Vinfinito
alphaB
Calcolo alphaB

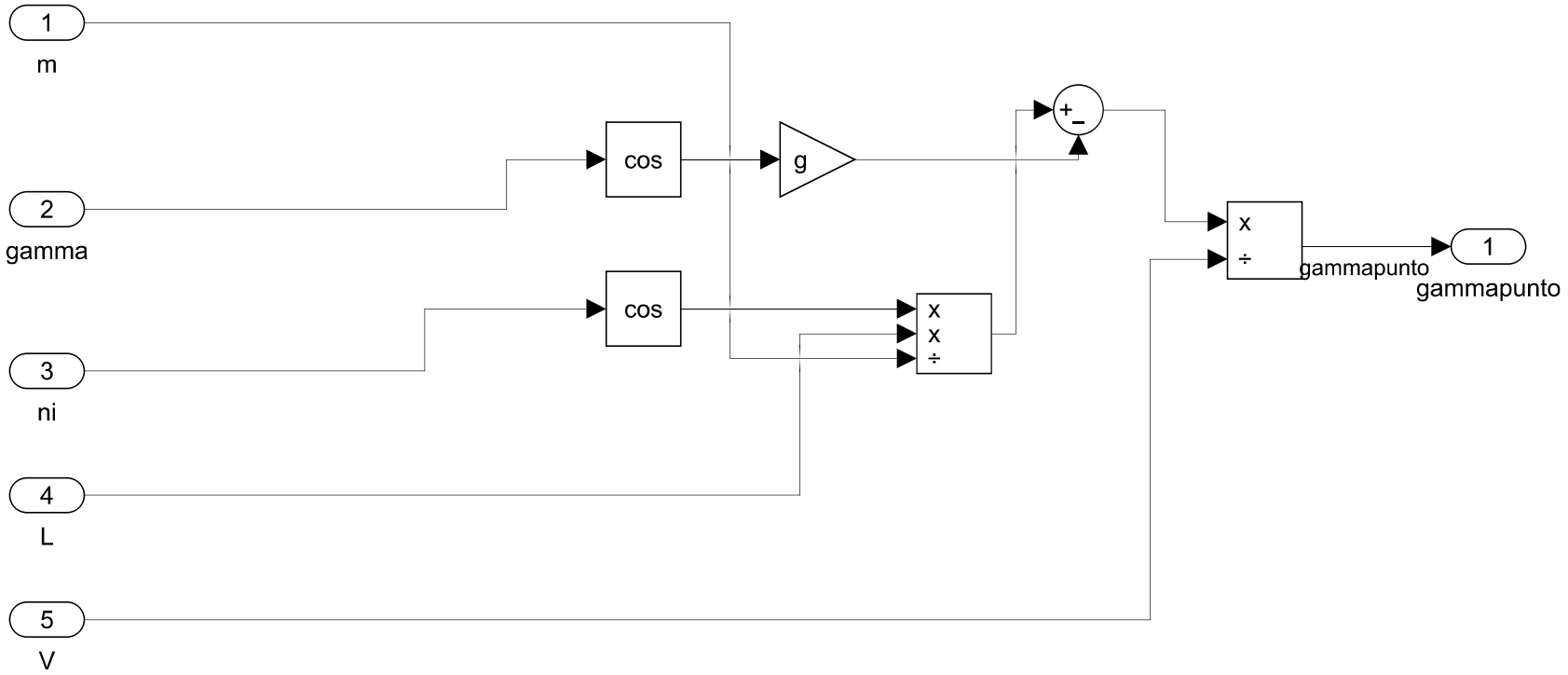

1
L
fcn
KL
2
rho
3
Vinfinito
u^2
-C-
alpha0L
x
x
÷
÷
+
+
1
alphaB

```
function KL = fcn()
S=280;
CLalpha=5.73;
KL=2/(S*CLalpha);
```

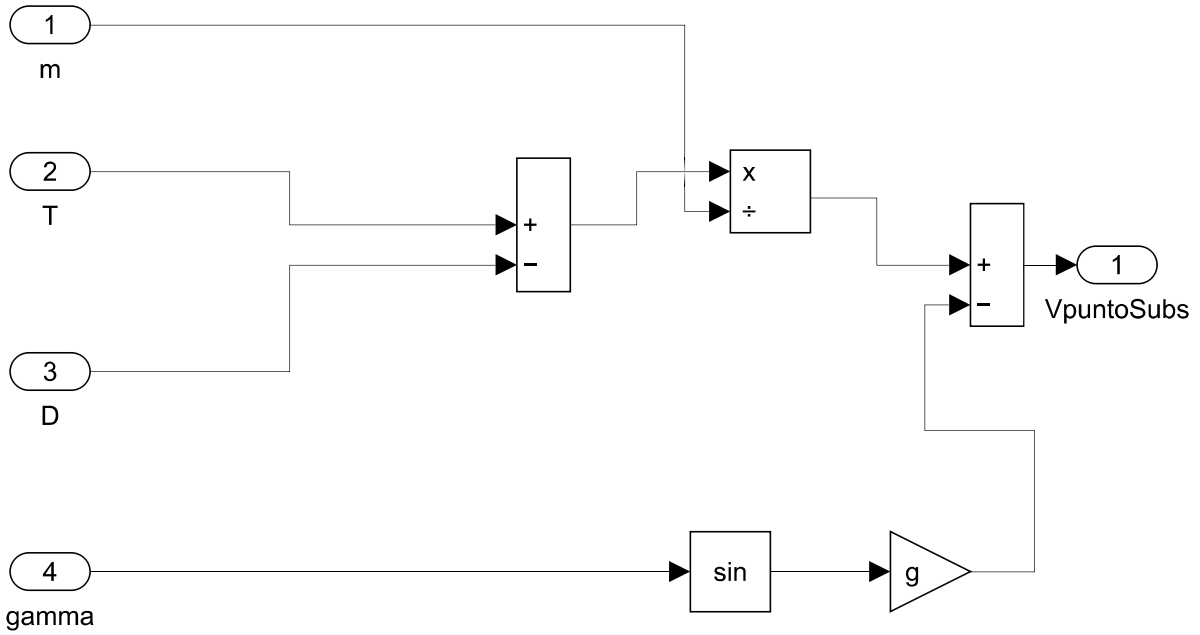

1
V
2
gamma
3
delta
cos
cos
x
xpunto
1
xpunto
cos
sin
x
ypunto
2
ypunto
3
hpunto
sin
x
hpunto


5
m
1
T
2
D
3
gamma
4
ni
6
L
7
V
m
T
D
gamma
m
T
D
gamma
VpuntoSubs
Equazione velocità
1
Vpunto
m
gamma
ni
L
V
gammapunto
Equazione gammapunto
2
gammapunto
m
gamma
ni
L
V
deltapunto
Equazione delta
3
deltapunto

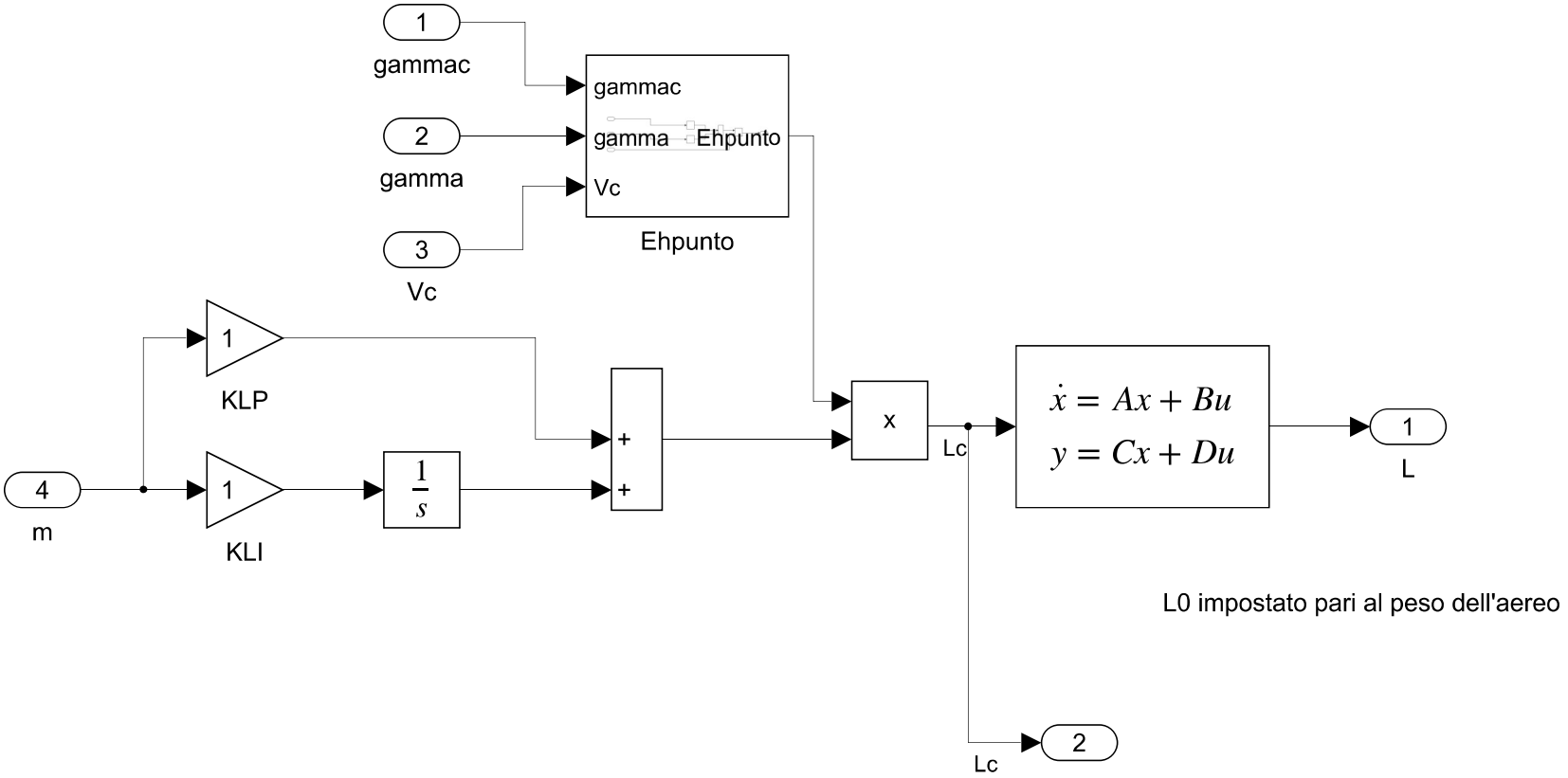

1
m
2
gamma
3
ni
4
L
5
V
sin
cos
x
x
÷
÷
÷
deltapunto
1
deltapunto


1
m
2
gamma
3
ni
4
L
5
V
cos
cos
g
x
x
÷
+
−
x
÷
gammapunto
1
gammapunto

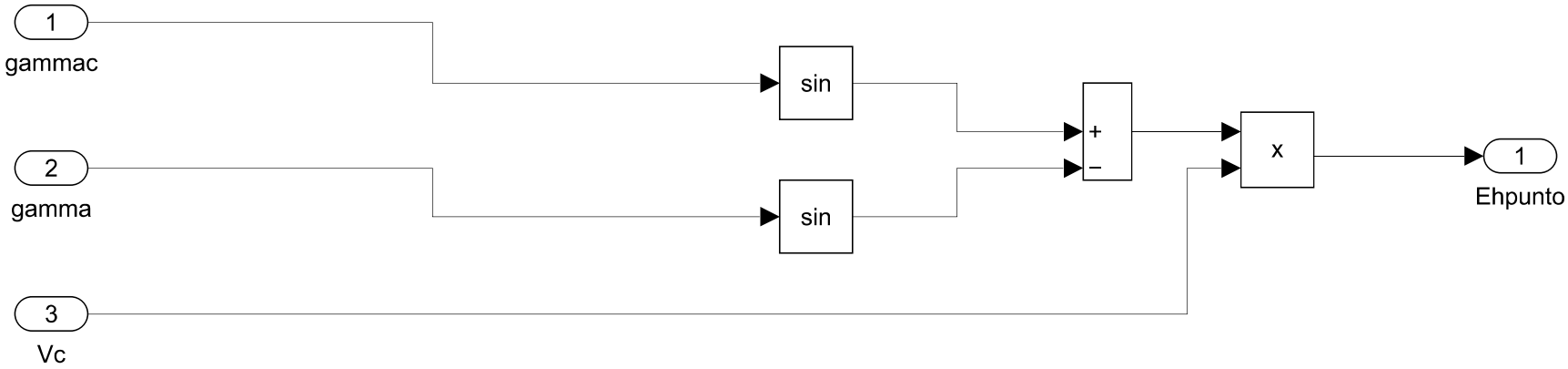
$$\dot{V} = \frac{T - D}{m} - g \sin \gamma$$

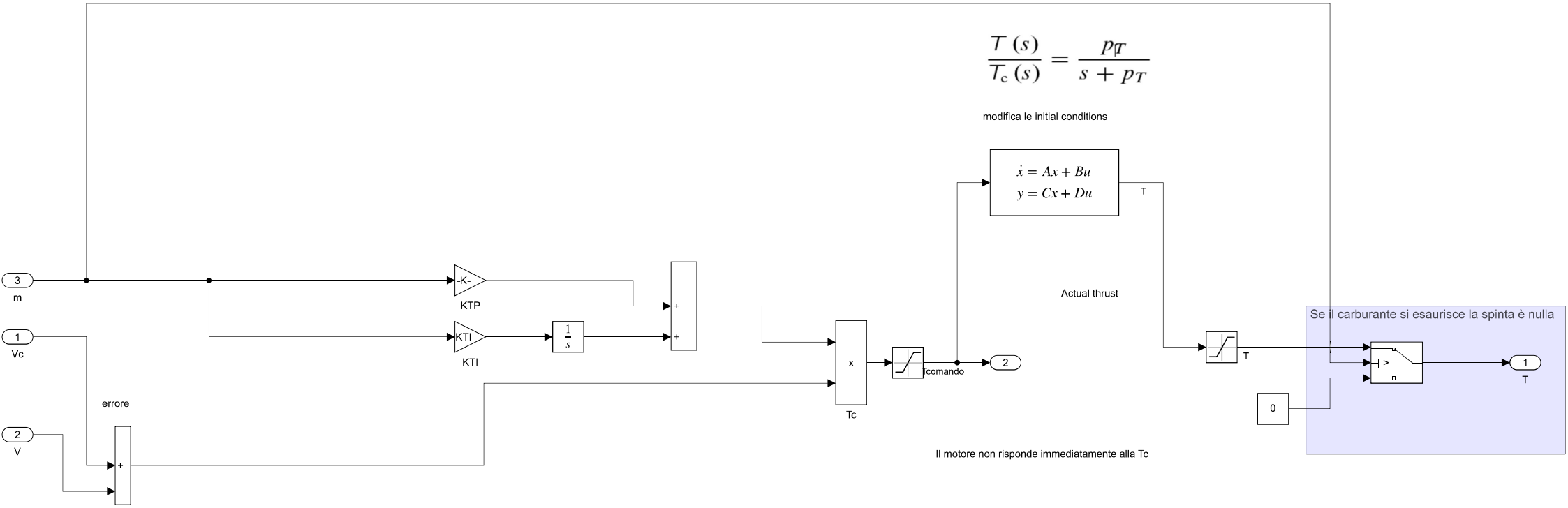


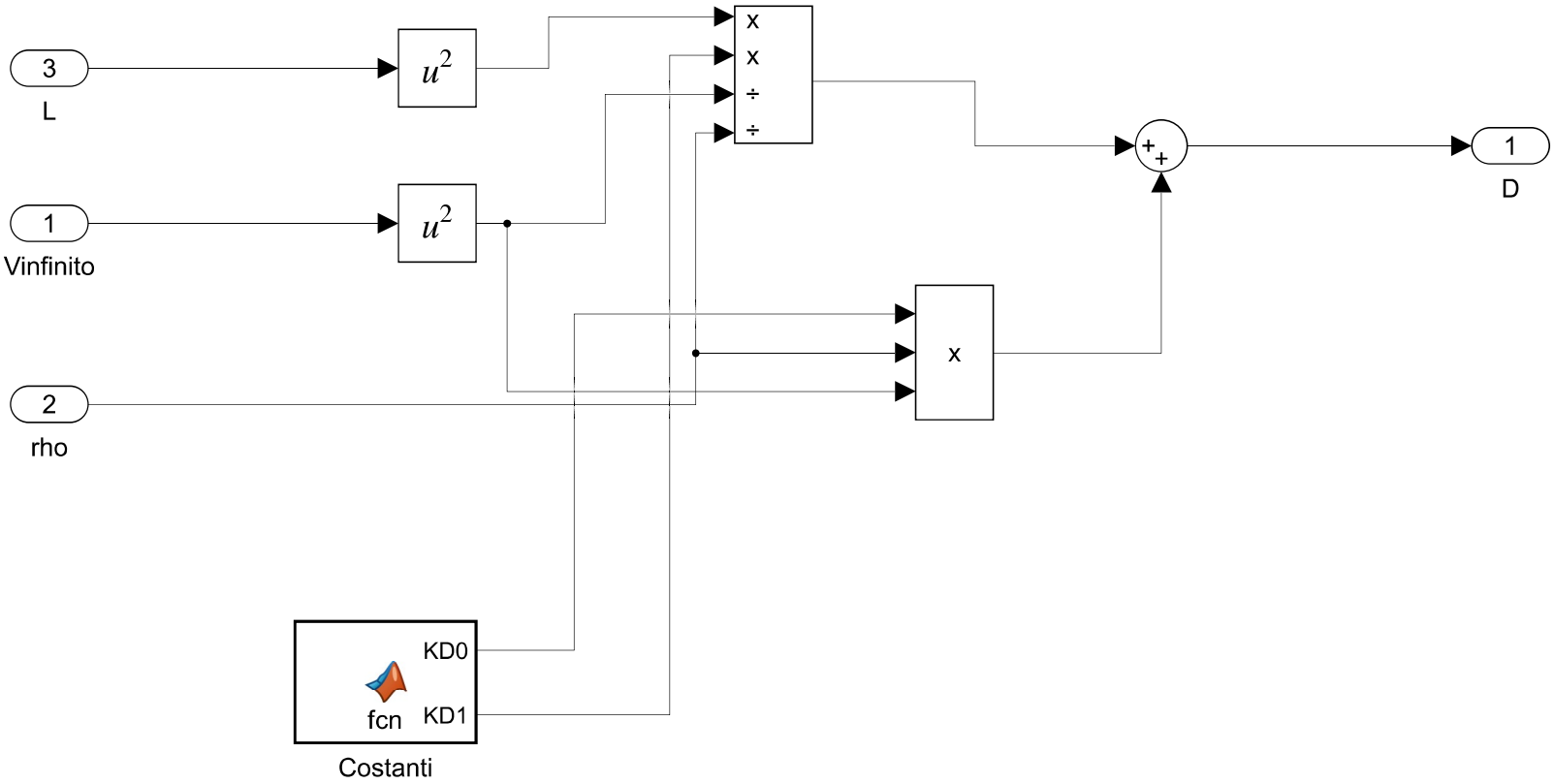
$$\frac{L_c(s)}{E_{\dot{h}}(s)} = \frac{mK_{L_P}\left(s + K_{L_I}/K_{L_P}\right)}{s}$$



L0 impostato pari al peso dell'aereo

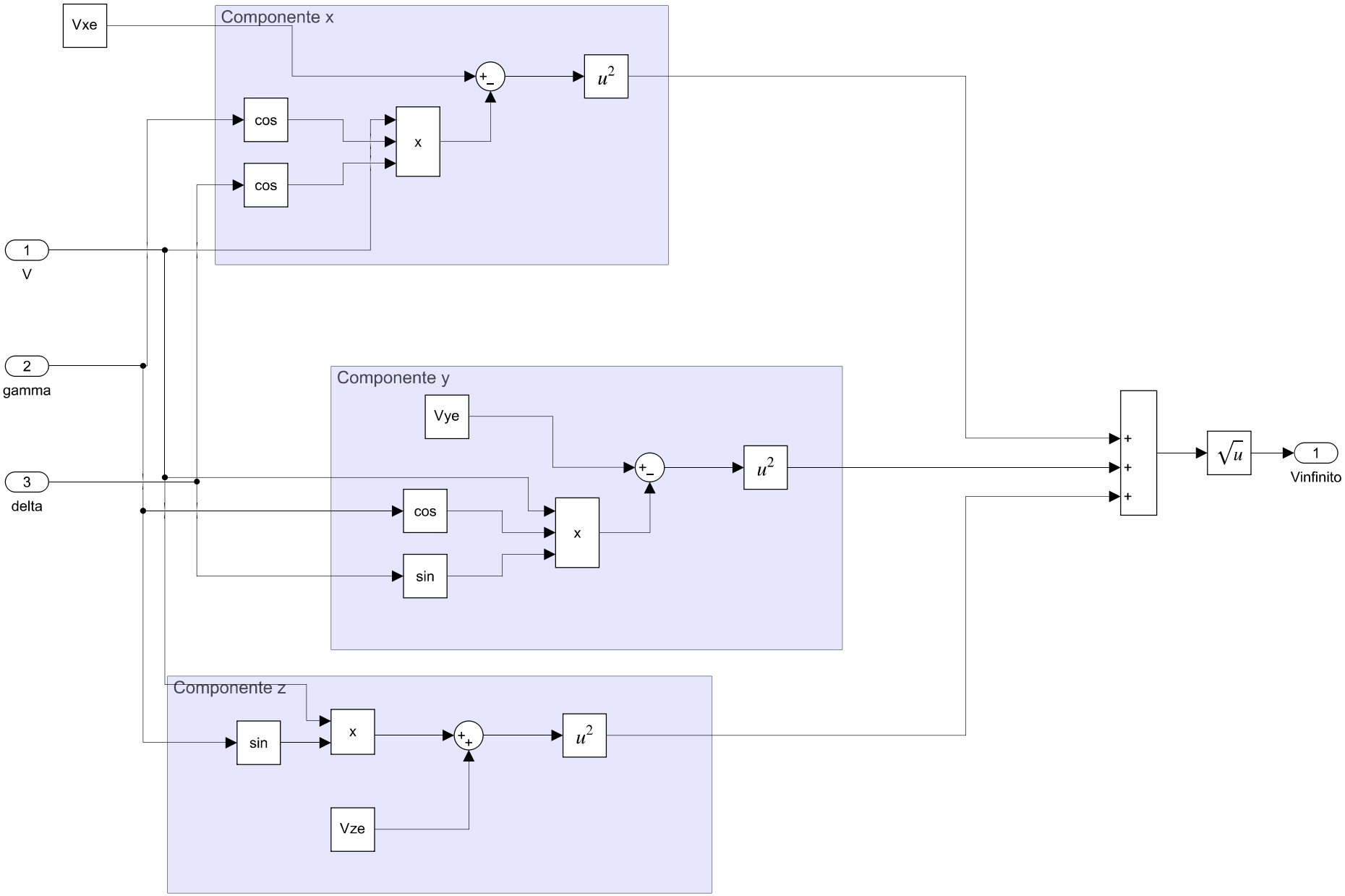

1
gammac
2
gamma
3
Vc
sin
sin
+
–
x
1
Ehpunto

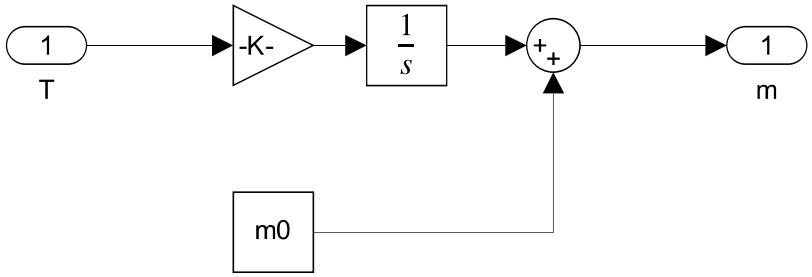

$\frac{T(s)}{T_c(s)} = \frac{p_T}{s + p_T}$
modifica le initial conditions
$\dot{x} = Ax + Bu$
$y = Cx + Du$
T
Actual thrust
3
m
1
Vc
2
V
-K-
KTP
KTI
KTI
$\frac{1}{s}$
errore
x
Tc
Tcomando
2
T
0
Se il carburante si esaurisce la spinta è nulla
1
T
Il motore non risponde immediatamente alla Tc


3
L
1
Vinfinito
2
rho
u^2
u^2
x
x
÷
÷
x
+
+
1
D
KD0
KD1
fcn
Costanti

```
function [KD0, KD1] = fcn()
    S=280;
    AR=7.082;
    CD0=0.020;
    eff=0.95;
    KD0=0.5*S*CD0;
    KD1=2/(S*pi*AR*eff);
end
```

$$V_\infty^2 = V_{x_{E},\infty}^2 + V_{y_{E},\infty}^2 + V_{y_{E},\infty}^2$$
$$= \left(V_{x_{E},w} - V\cos\gamma\cos|\delta\right)^2 + \left(V_{y_{E},w} - V\cos\gamma\sin\delta\right)^2 + \left(V_{z_{E},w} + V\sin\gamma\right)^2$$




1
T
-K-
1
s
+
+
1
m
m0