$$\left[x_k\ y_k\ z_k\ \overset{*}{x}_k\ \overset{*}{y}_k\ \overset{*}{z}_k\ \overset{**}{x}_k\ \overset{**}{y}_k\ \overset{**}{z}_k\ \theta_{xk}\ \theta_{yk}\ \theta_{zk}\ \overset{*}{\theta}_{xk}\ \overset{*}{\theta}_{yk}\ \overset{*}{\theta}_{zk}\right]$$

$$x_k = x_{k-1} + \overset{*}{x}_{k-1}T_s + \frac{1}{2}\overset{**}{x}_{k-1}T_s^2$$

$$\overset{*}{x}_k = \overset{*}{x}_{k-1} + \overset{**}{x}_{k-1}T_s$$

$$\overset{**}{x}_k = \overset{**}{x}_{k-1}$$

$$y = y_{k-1} + \overset{*}{y}_{k-1}T_s + \frac{1}{2}\overset{**}{y}_{k-1}T_s^2$$

$$\overset{*}{y}_k = \overset{*}{y}_{k-1} + \overset{**}{y}_{k-1}T_s$$

$$\overset{**}{y}_k = \overset{**}{y}_{k-1}$$

$$z_k = z_{k-1} + \overset{*}{z}_{k-1}T_s + \frac{1}{2}\overset{**}{z}_{k-1}T_s^2$$

$$\overset{*}{z}_k = \overset{*}{z}_{k-1} + \overset{**}{z}_{k-1}T_s$$

$$\overset{**}{z}_k = \overset{**}{z}_{k-1}$$

$$\theta_{xk} = \theta_{xk-1} + \overset{*}{\theta}_{xk-1}T_s$$

$$\overset{*}{\theta}_{xk} = \overset{*}{\theta}_{xk-1}$$

$$\theta_{yk} = \theta_{yk-1} + \overset{*}{\theta}_{yk-1}T_s$$

$$\overset{*}{\theta}_{yk} = \overset{*}{\theta}_{yk-1}$$

$$\theta_{zk} = \theta_{zk-1} + \overset{*}{\theta}_{zk-1}T_s$$

$$\overset{*}{\theta}_{zk} = \overset{*}{\theta}_{zk-1}$$

x
y
z
x*
y*
z*
x**
y**
z**
θx
θy
θz
θx*
θy*
θz*

1	0	0	Ts	0	0	Ts^2/2	0	0	0	0	0	0	0	0
0	1	0	0	Ts	0	0	Ts^2/2	0	0	0	0	0	0	0
0	0	1	0	0	Ts	0	0	Ts^2/2	0	0	0	0	0	0
0	0	0	1	0	0	Ts	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	Ts	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	Ts	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0	Ts	0	0
0	0	0	0	0	0	0	0	0	0	1	0	0	Ts	0
0	0	0	0	0	0	0	0	0	0	0	1	0	0	Ts
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1