

Notation statement:

To clarify the characteristics of a variable, we use underscore "\_" + notation  
In "variable\_t", "t" means that this is a variable at some point in time, this is a scaler (Ex, variable at time t= 100)  
In "variable\_tsq", "tsq" means that this is a time series variable, this is a vector list (Ex: variable from 0 to time t = 100)  
In "variable\_d", "d" means that every scaler in the list of that variable will last for a period of time.  
In "variable\_s", "s" means that this variable contains different scenarios, each scaler in that variable is unique.  
For example:  
 $u_d = [0,1,0]$ ;  $t_d = [100,10,20]$ ; means that  $u = 0$  lasts for 100 timesteps,  $u=1$  lasts for the next 10 timesteps,  $u = 0$  lasts for the following 20 timesteps.

System model(SM): A,B,H,Q,R  
System setup (SS): It contains the different input scenarios  $u_s$ , particular timestep  $ts$ , simulation setup  $u_d$  and  $t_d$   
measurements ( $z_{tsq}$ ): The value observed over time by the sensor, this could come from simulation or real-world data  
prediction (Pre): predicted states  
estimation (Est): estimated states  
Sigma (Sig): states likelihood  
A: system transfer matrix  
B: input matrix  
H: observation matrix  
Q: covariance of the process noise  
R: covariance of the measurement noise  
 $ts$ : a particular timestep. we need to use the planner to determine the error probabilities at that time step.  
 $x_0$ : initial state  
ground\_truth (g): ground truth data over time  
The red box is what will be embedded in other groups  
The blue box is the estimator box which will be run on agents\satellites  
 $\oplus$ : This symbol means that the current block will be run N number of times, and it also means that the output data stream will be accumulated N times

