|  |  |
| --- | --- |
| iter=40;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=20;  ADVL=0.1;  sigmaDVL=2;  AUSBL=40;  sigmaUSBL=0.1;  Z axis all |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,35,20);  xIMU = G1D(range,localTrajvar,35,20);  tUsbl=xCusbl(iUsbl+1,1); |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,20,20);  xIMU = G1D(range,localTrajvar,20,20);  tUsbl=xCusbl(iUsbl+1,1); |  |
| if tUsbl<=t && iUsbl<158  xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,20);  xIMU = G1D(range,localTrajvar,30,20);  tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=40;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=20;  ADVL=0.1;  sigmaDVL=2;  AUSBL=40;  sigmaUSBL=0.1;  Z axis |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,20);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter = 25;  Zaxis |  |
| xUSBL = G1D(range,xCusbl(iUsbl,2)-xCusbl(iUsbl-1,2),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,20);    tUsbl=xCusbl(iUsbl+1,1);  Abrupt error overcome but residual error came |  |
| Y axis  With above configurations |  |
| Same conf z axis  25 iterations |  |
| if tUsbl<=t && iUsbl<158  xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,10);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  Oscillations by smaller feedback value |  |
| if tUsbl<=t && iUsbl<158  xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;    Now a bit smooth |  |
| if tUsbl<=t && iUsbl<158  xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,50,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1; |  |
|  |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=20;  ADVL=0.1;  sigmaDVL=2;  AUSBL=40;  sigmaUSBL=0.1;  zaxis |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,5);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=20;  ADVL=0.1;  sigmaDVL=2;  AUSBL=40;  sigmaUSBL=0.1; |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,5);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=30;  ADVL=0.1;  sigmaDVL=2;  AUSBL=40;  sigmaUSBL=0.1; |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=30;  ADVL=0.1;  sigmaDVL=5;  AUSBL=40;  sigmaUSBL=0.1; |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=30;  ADVL=0.1;  sigmaDVL=0.5;  AUSBL=40;  sigmaUSBL=0.1; |  |
| xUSBL = G1D(range,xCusbl(iUsbl,4)-xCusbl(iUsbl-1,4),sigmaUSBL,AUSBL);  xDVL = G1D(range,localTrajvar,30,40);    tUsbl=xCusbl(iUsbl+1,1);  iUsbl=iUsbl+1;  iter=25;  #setting Input for inertial sensor and positioning  AIMU=0.1;  sigmaIMU=30;  ADVL=0.1;  sigmaDVL=3;  AUSBL=40;  sigmaUSBL=0.1; |  |