```
set(0,'DefaultAxesLinewidth',2,'DefaultLineLineWidth',2);
set(0,'defaultAxesFontSize',14);
set(0,'defaultAxesFontName','arial');
set(0,'defaultTextFontName','arial');

close all
clear

A = [0 1 0;0 0 1;-0.5 -1.2 -11.3];
B = [0;0;1];
C = [1 1 0];

setlmis([])

[P,n,sP] = lmivar(1,[3 1]);

S1 = newlmi;
lmiterm([S1 1 1 P],1,A,'s')
lmiterm([S1 1 1 0],eye(3,3))
lmiterm([-S1 2 2 P],1,1)
LMIs = getlmis;
c = [1 0 0 0 0 0];

[tmin,xopt] = feasp(LMIs);

%[copt,xopt] = mincx(LMIs,c);

P1 = dec2mat(LMIs,xopt,P)

%P1*A+A'*P1+eye(3,3)
%eig(ans)
```

```
 Solver for LMI feasibility problems L(x) < R(x)
    This solver minimizes  t  subject to  L(x) < R(x) + t*I
    The best value of t should be negative for feasibility

 Iteration   :    Best value of t so far

     1                        1.078522
     2                        1.036535
     3                        0.948872
     4                      -96.716523

 Result:  best value of t:   -96.716523
          f-radius saturation:  0.003% of R =  1.00e+09


P1 =

   1.0e+04 *
```

```
    0.1526    0.2201    0.0210
    0.2201    2.8645    0.2541
    0.0210    0.2541    0.0789
```

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