```
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([])

[gamma2,n,sgamma2] = lmivar(1,[1 1]);
[P,n,sP] = lmivar(1,[3 1]);

S1 = newlmi;
lmiterm([S1 1 1 P],1,A,'s')
lmiterm([S1 1 1 0],C'*C)
lmiterm([S1 1 2 P],1,B)
lmiterm([S1 2 2 gamma2],-1,1)
lmiterm([-S1 3 3 P],1,1)
LMIs = getlmis;
c = [1 0 0 0 0 0 0];

%[tmin,xopt] = feasp(LMIs);

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

P1 = dec2mat(LMIs,xopt,P)
gamma21 = dec2mat(LMIs,xopt,gamma2)
gamma = sqrt(gamma21)
%P1*A+A'*P1+eye(3,3)
%eig(ans)


 Solver for linear objective minimization under LMI constraints

 Iterations   :    Best objective value so far

     1
     2
     3
     4                  28.892559
     5                  25.891232
     6                  22.988429
     7                  22.988429
     8                  20.033389
     9                  20.033389
***                 new lower bound:    11.413061
    10                  20.033389
```

```
***                 new lower bound:    16.876641
    11                  18.757985
    12                  18.621436
***                 new lower bound:    18.232632
    13                  18.559605
***                 new lower bound:    18.383289

 Result:  feasible solution of required accuracy
          best objective value:    18.559605
          guaranteed relative accuracy:  9.50e-03
          f-radius saturation:  0.000% of R =  1.00e+09


P1 =

   10.2124   12.8354   11.2486
   12.8354  242.4022   21.5508
   11.2486   21.5508  260.3398


gamma21 =

   18.5596


gamma =

    4.3081
```

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