

Stíny

Zdroj v nekonečnu

```
% smer svetelných paprsku
```

```
L = [10 10 10];
```

```
P = [0 20 0;  
     10 20 0;  
     10 20 10;  
     0 20 10;  
     0 30 0;  
     10 30 0;  
     10 30 10;  
     0 30 10];
```

```
M = [1 -L(1)/L(2) 0 0;  
     0 0 0 0;  
     0 -L(3)/L(2) 1 0;  
     0 0 0 1];
```

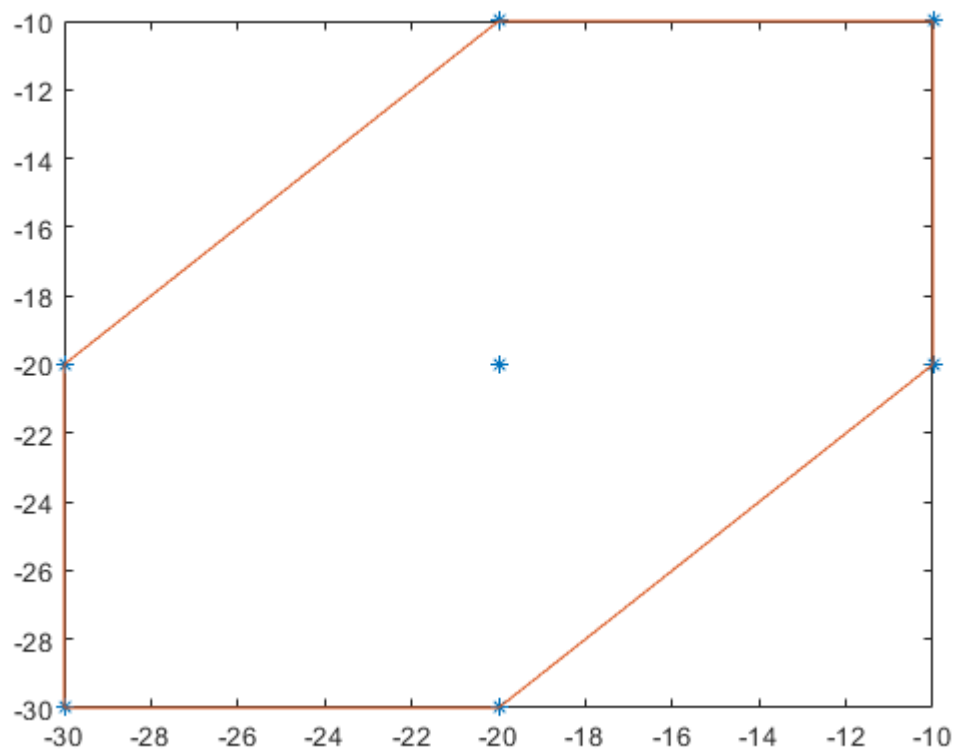
```
S = M * [P zeros([size(P,1) 1])]'
```

```
S = 4x8
```

```
-20  -10  -10  -20  -30  -20  -20  -30  
  0    0    0    0    0    0    0    0  
-20  -20  -10  -10  -30  -30  -20  -20  
  0    0    0    0    0    0    0    0
```

```
body = [S(1,:);S(3,:)]';  
[k,av] = convhull(body);
```

```
figure,  
plot(body(:,1),body(:,2), '*')  
hold on  
plot(body(k,1),body(k,2))  
hold off
```



Zdroj v bodě

```
% zdroj svetelných paprsku
L = [0 100 100];

P = [0 20 0;
     10 20 0;
     10 20 10;
     0 20 10;
     0 30 0;
     10 30 0;
     10 30 10;
     0 30 10];

M = [-L(2) L(1) 0 0;
     0 0 0 0;
     0 L(3) -L(2) 0;
     0 1 0 -L(2)];

S = M * [P zeros([size(P,1) 1])]';

body = [S(1,:)./(S(2,:)-L(2));S(3,:)./(S(2,:)-L(2))]
```

```
body = 2x8
      0    10    10     0     0    10    10     0
```

-20 -20 -10 -10 -30 -30 -20 -20

```
body = body';  
[k,av] = convhull(body);  
  
figure,  
plot(body(:,1),body(:,2), '*')  
hold on  
plot(body(k,1),body(k,2))  
hold off
```

