HW.3   Guimin Dong
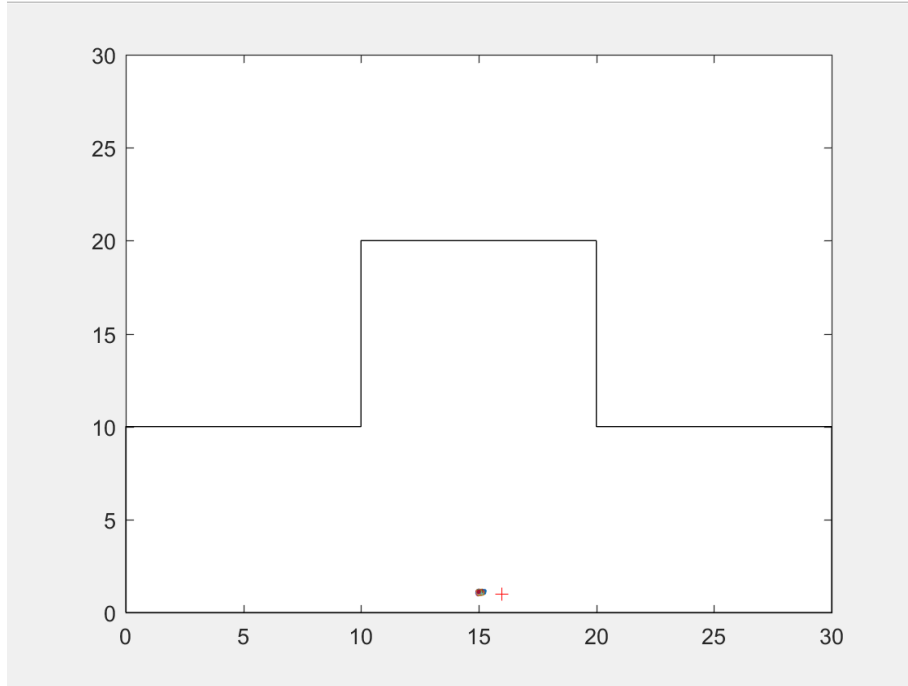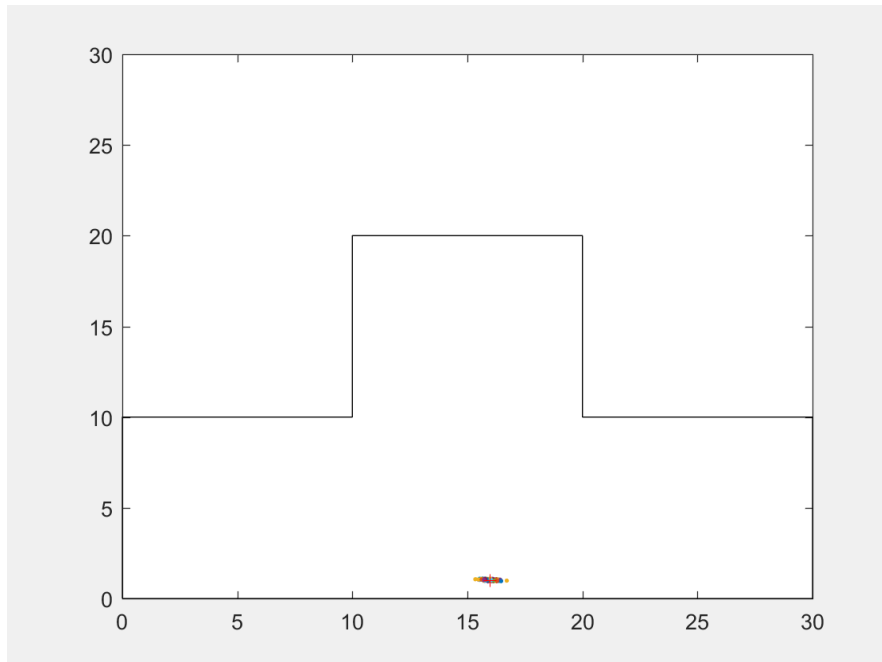
1. Particle Filter
   a) Path 1
      Initial position: xpos = 25, ypos = 9, theta = pi/2
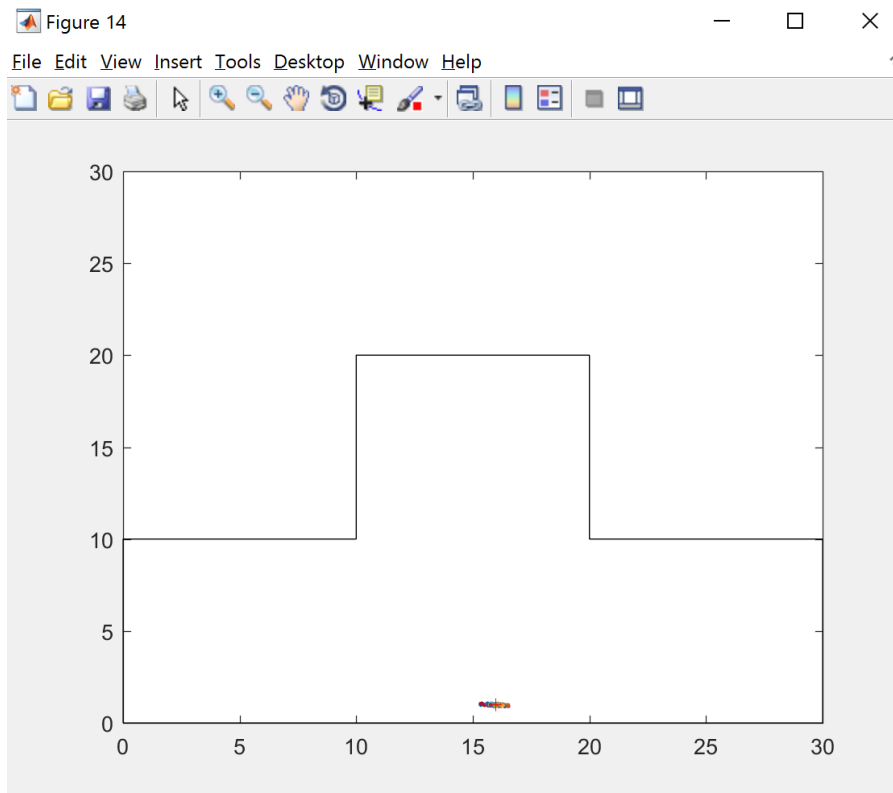   Try M=10000

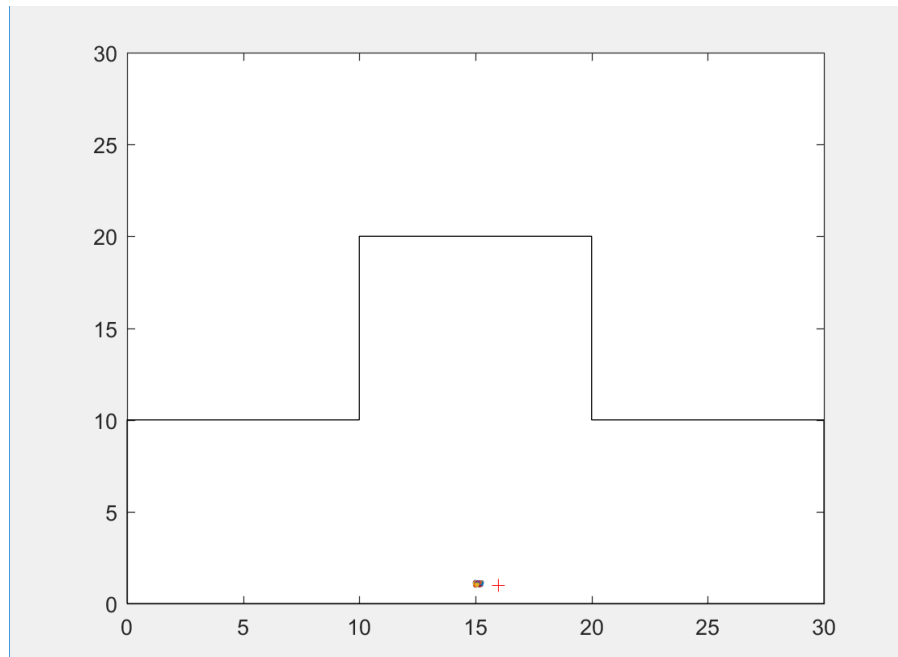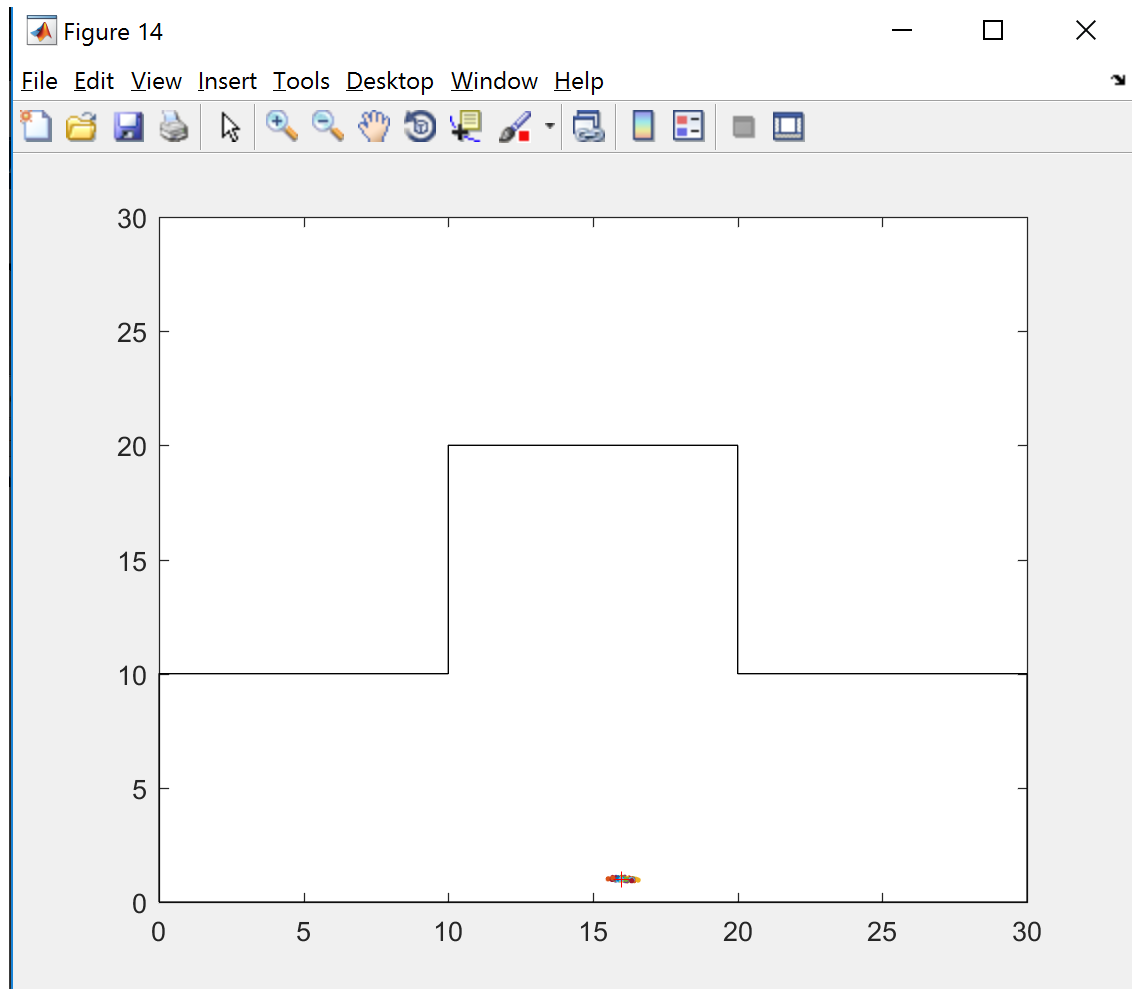Try M=5000

Try M=2000
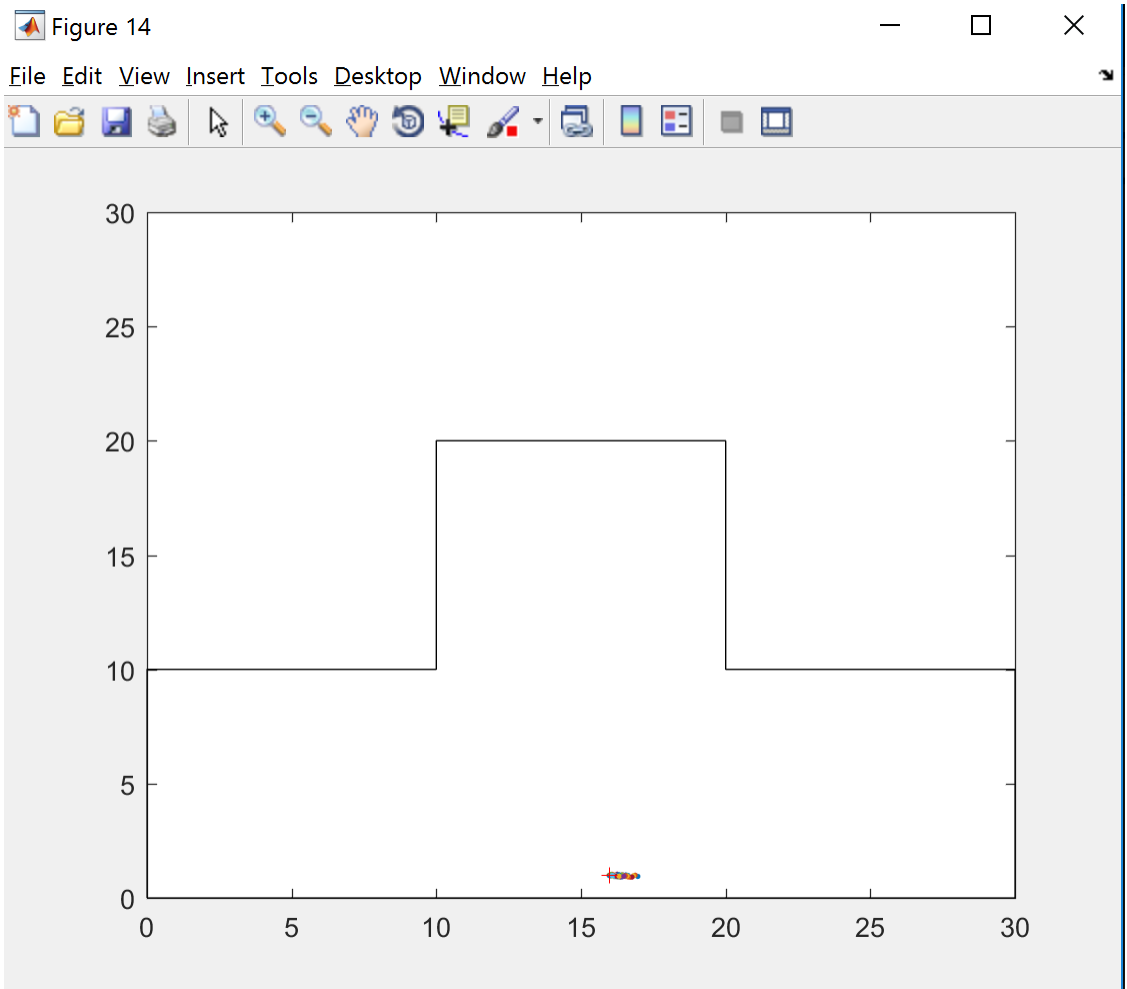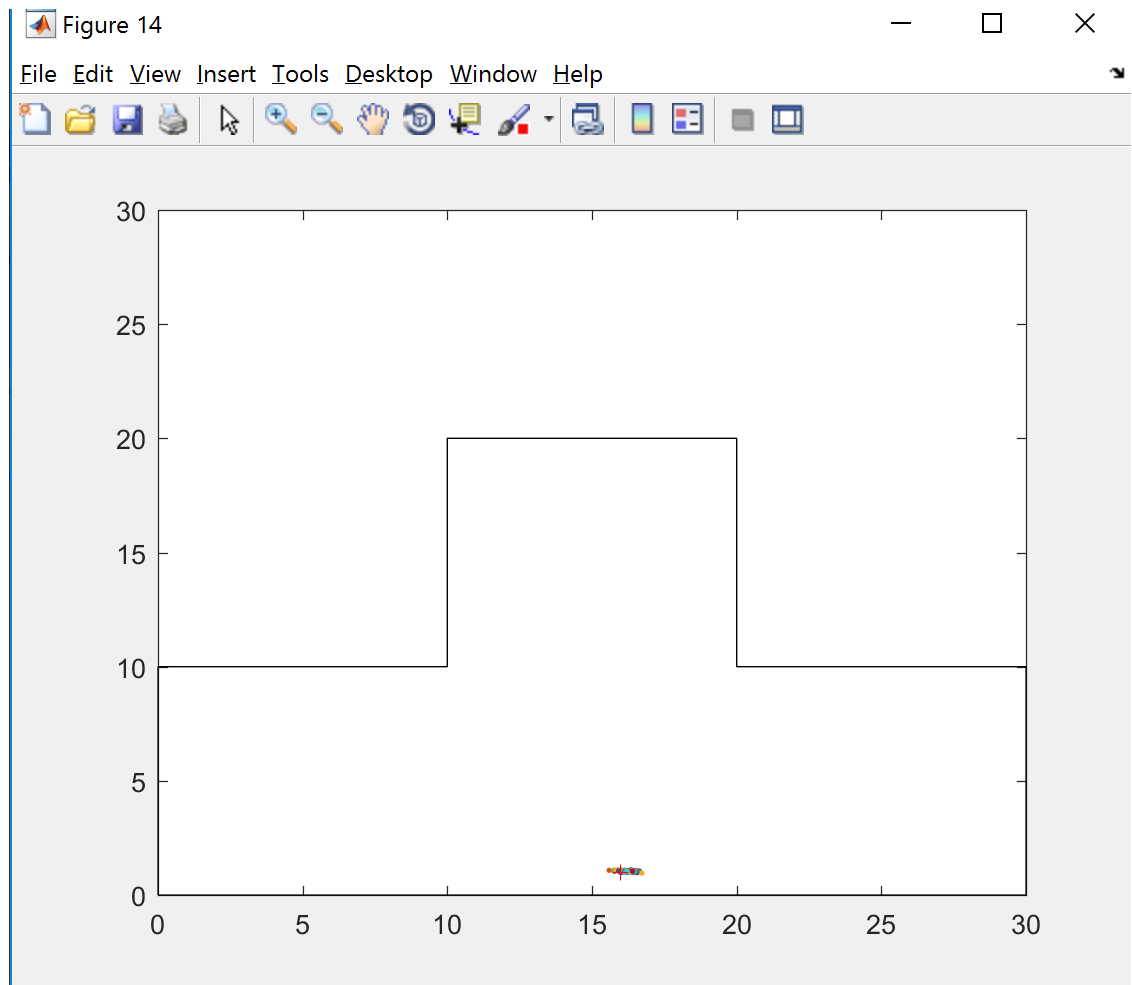

Try M=1000

There is little deviation from the estimation and the real position of the robot then we try a larger M
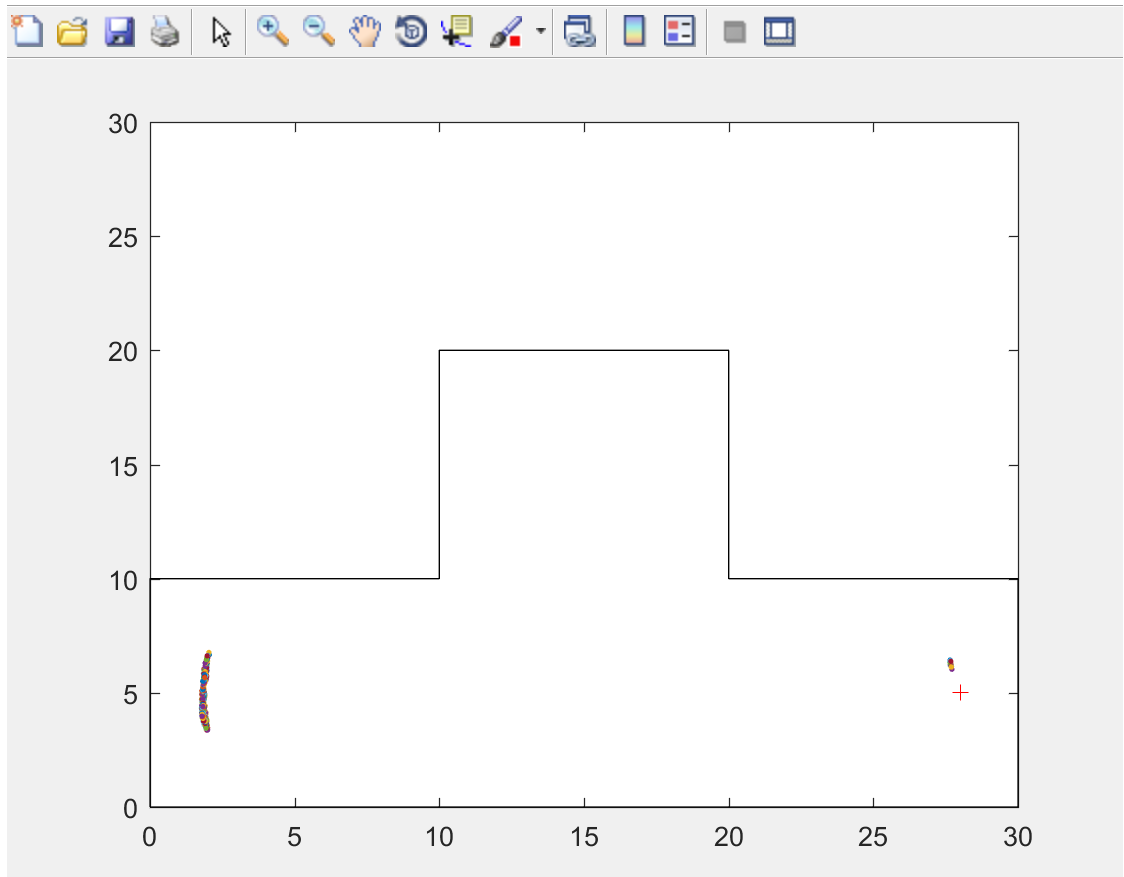
Try M=1900

Try M=1500

Try m=1800

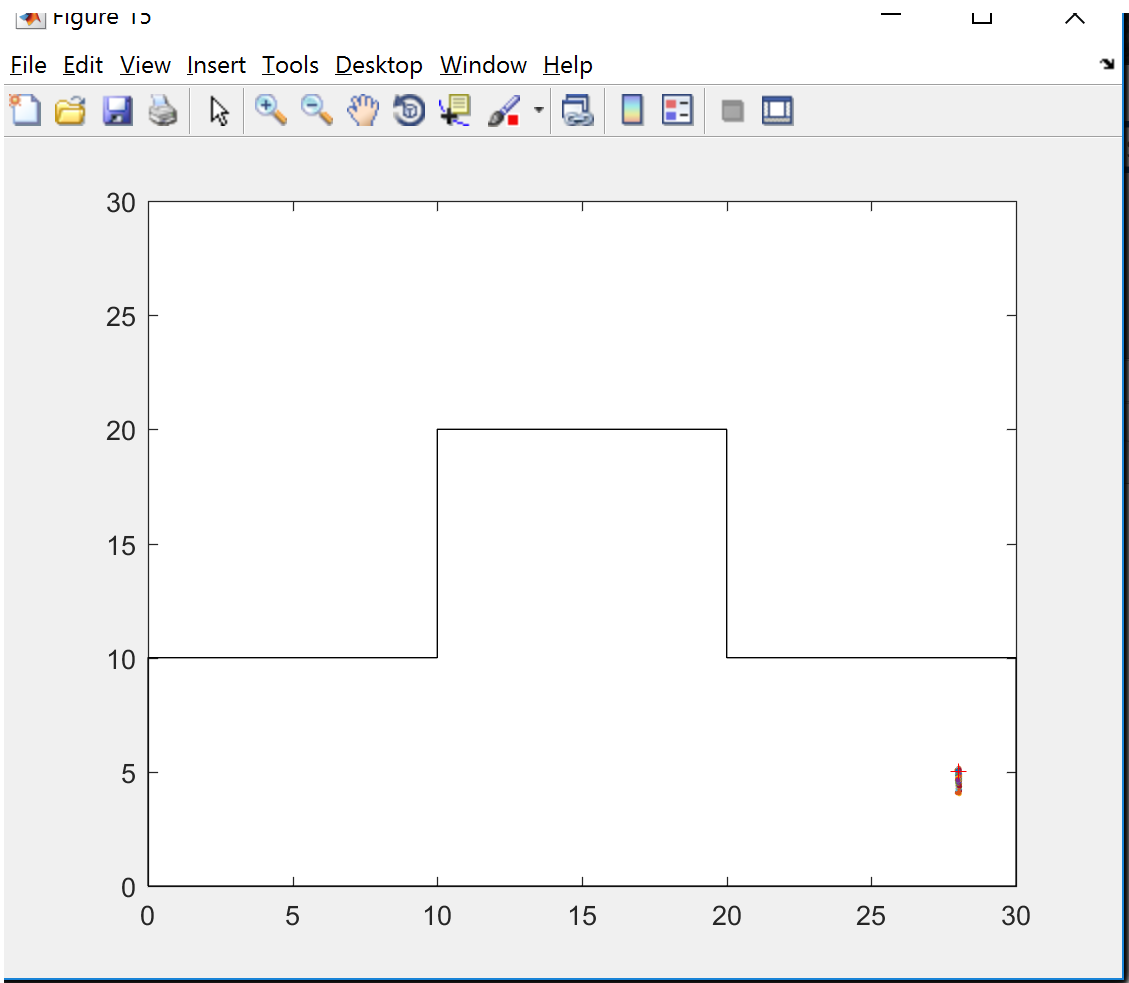Thus I M=1800 is efficient and effective to estimate the position.

b) Initial position: xpos = 2, ypos = 5, theta = 0

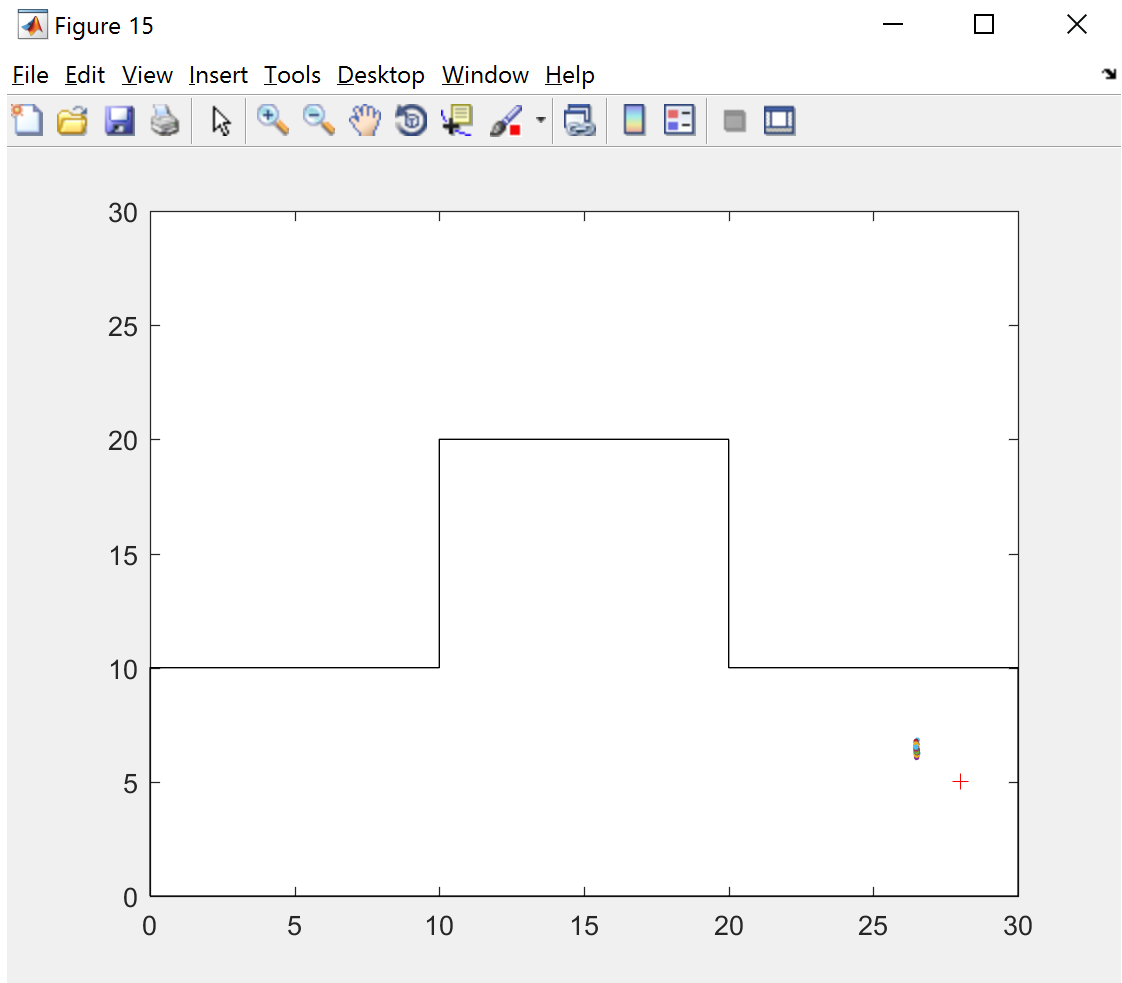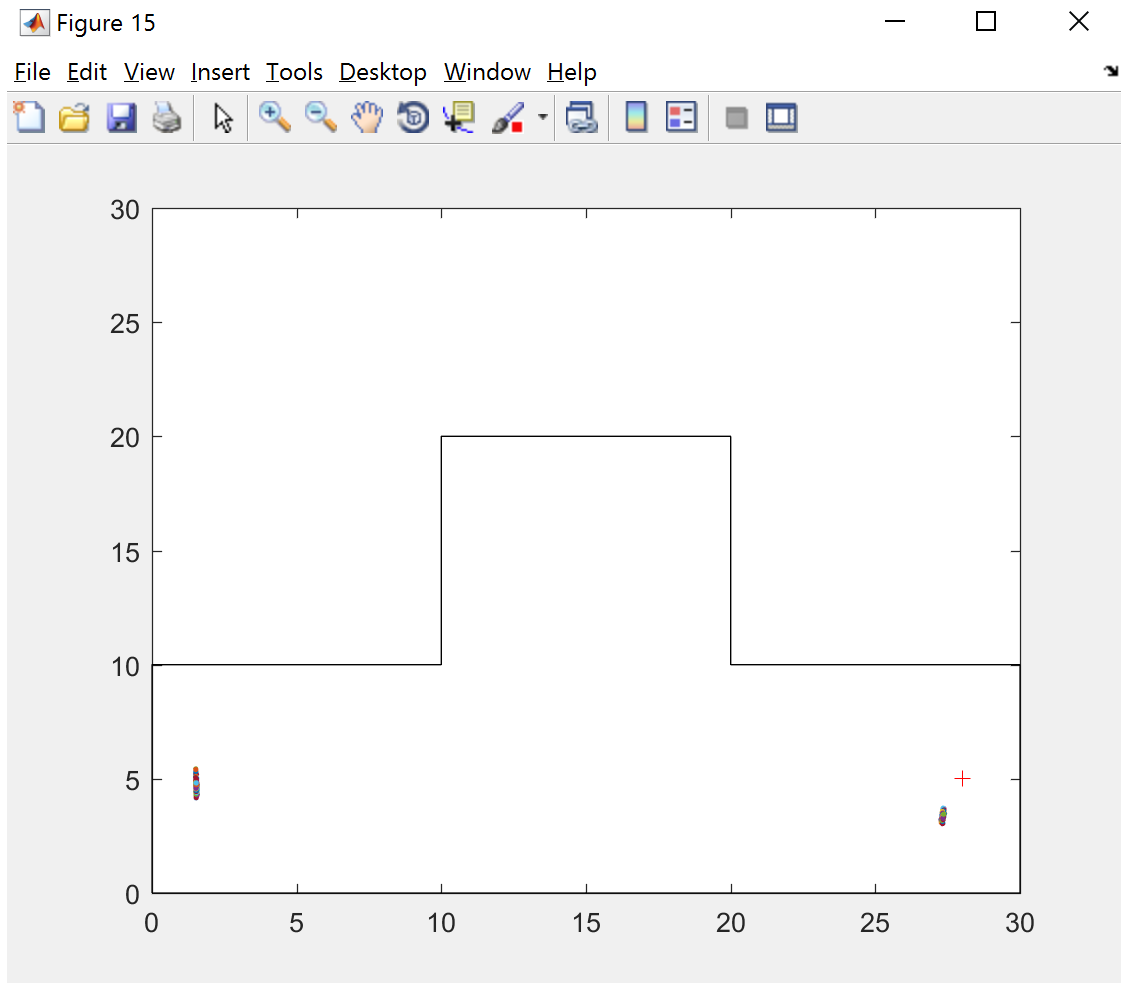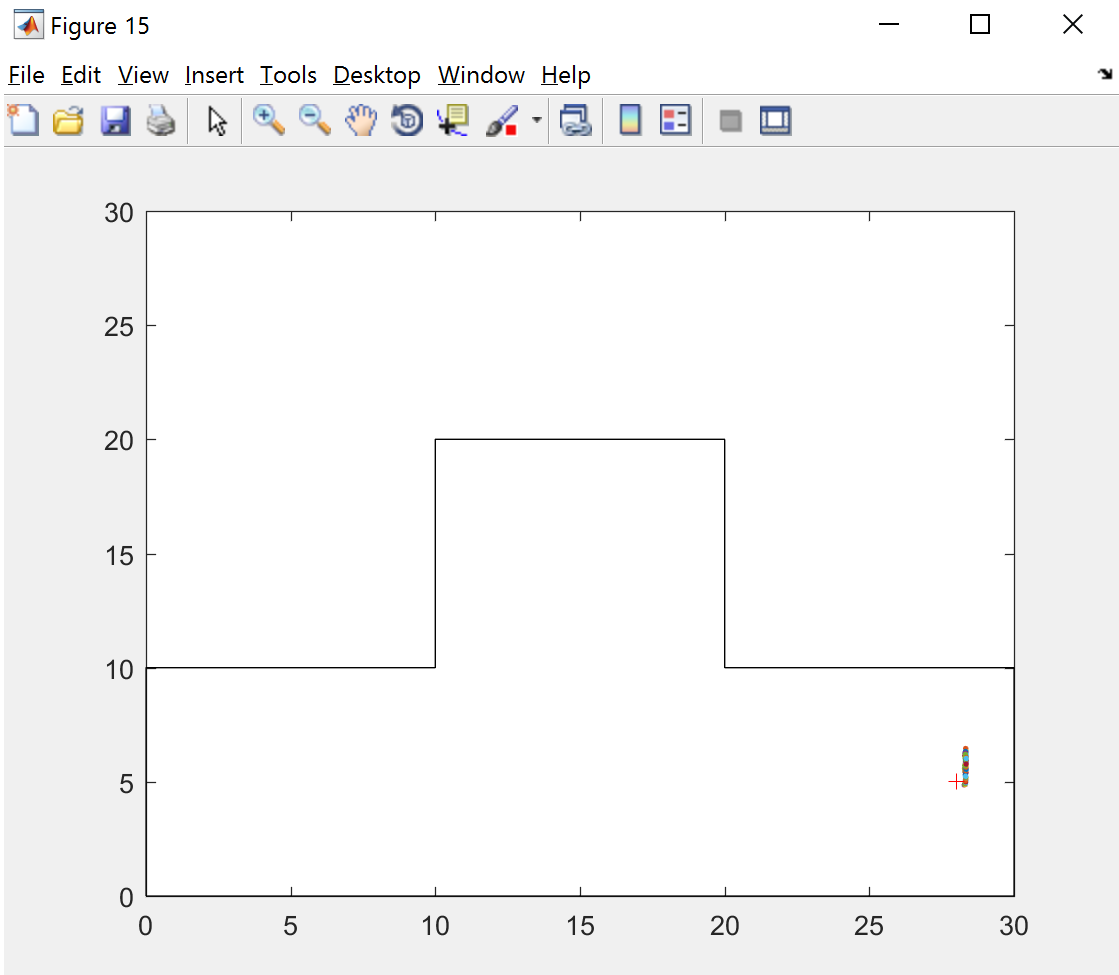   Try M=10000

Try M=5000

TRY M=2500
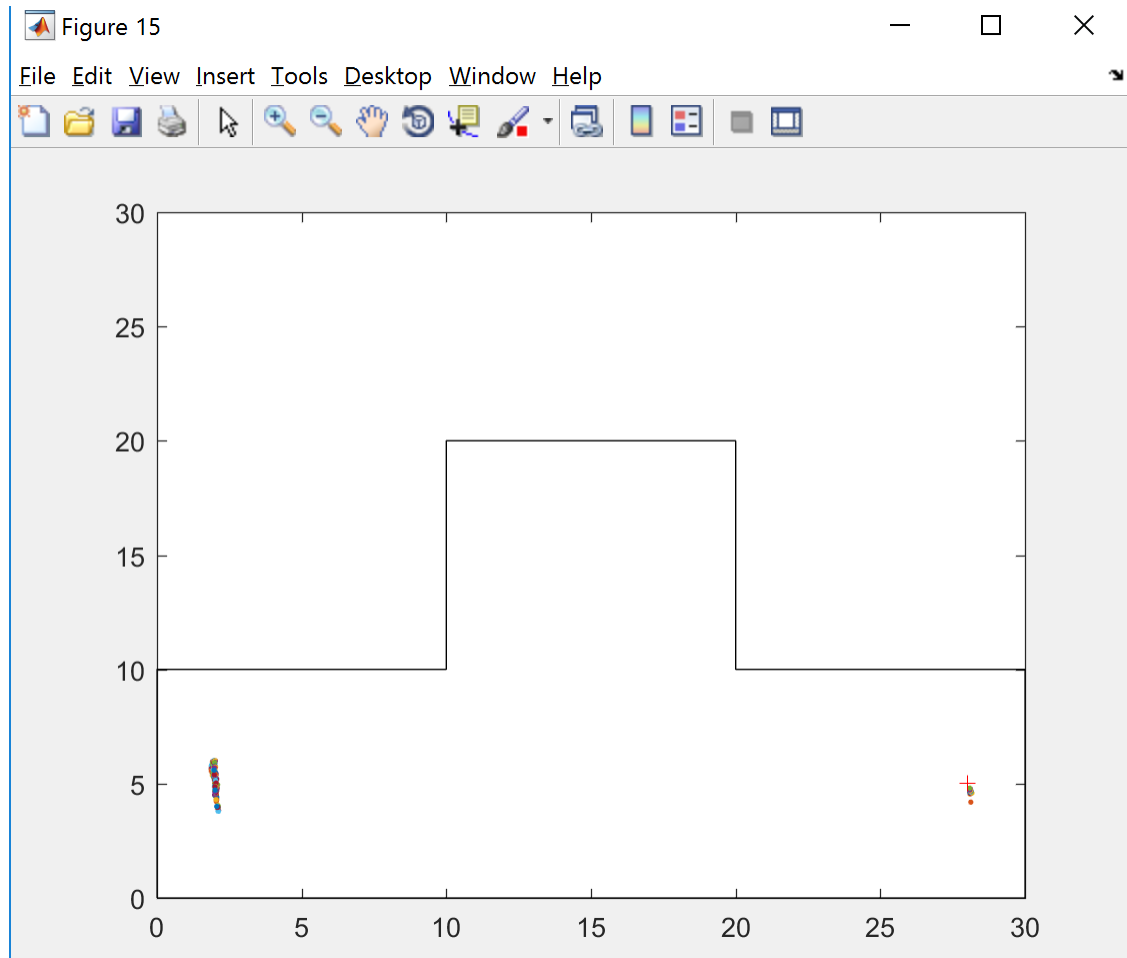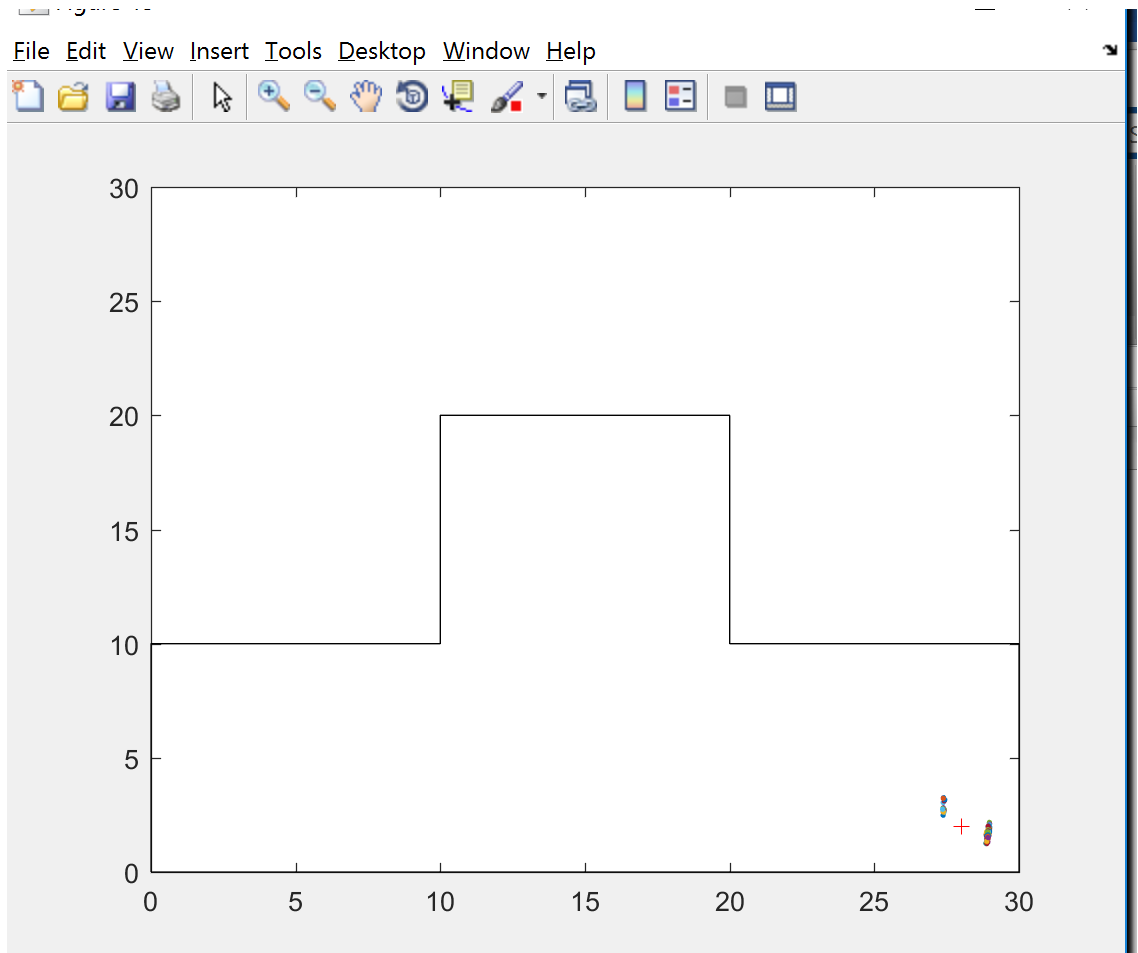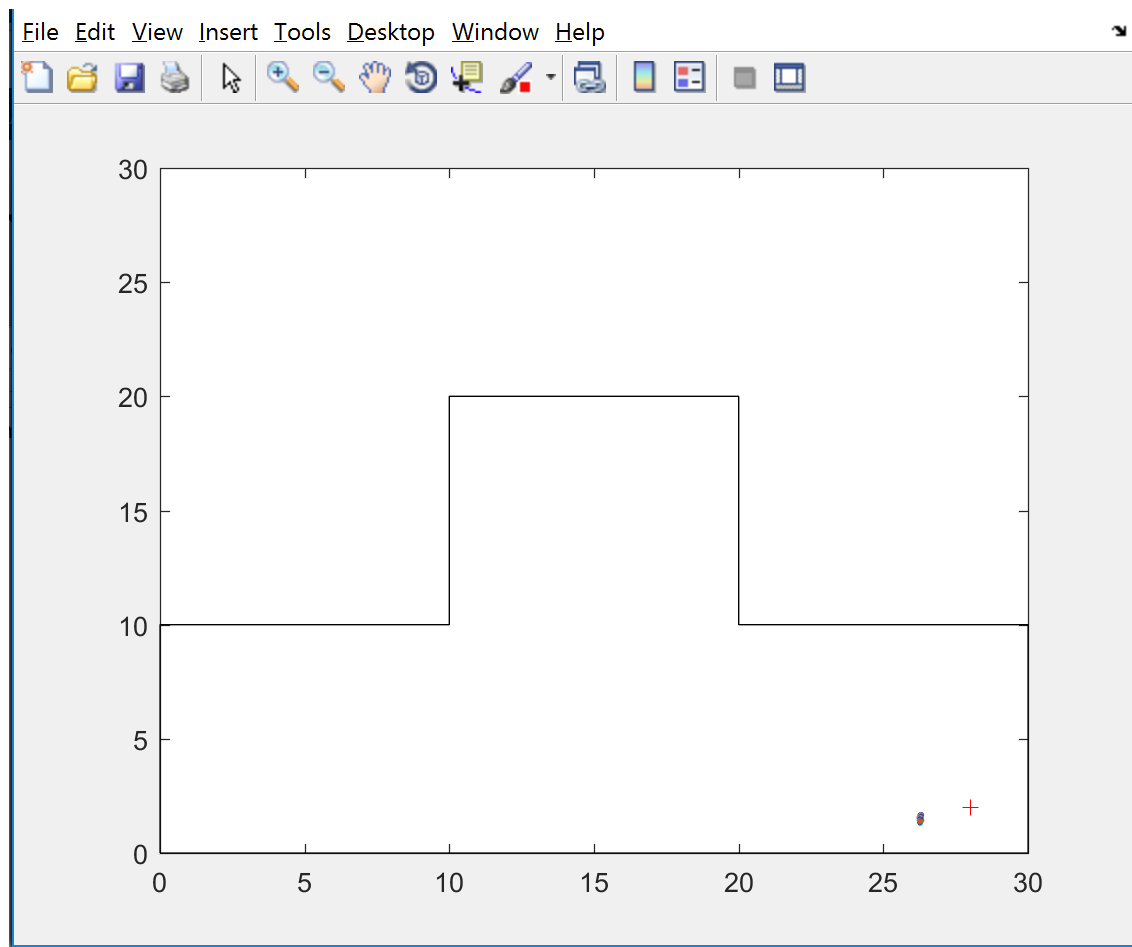
Try M=4000

Try m=3000

Try M=4800

Thus M=5000 is appropriate.

c) Path 3

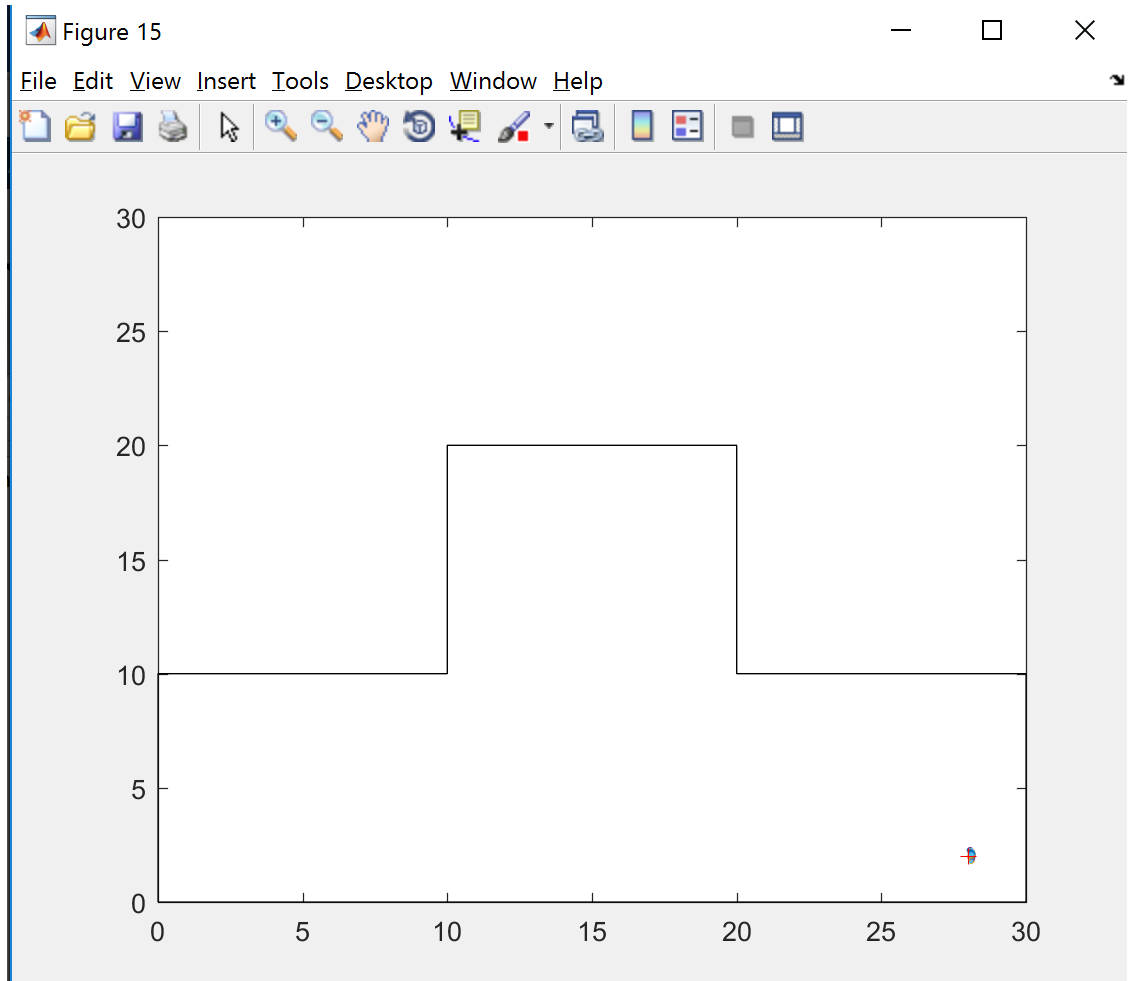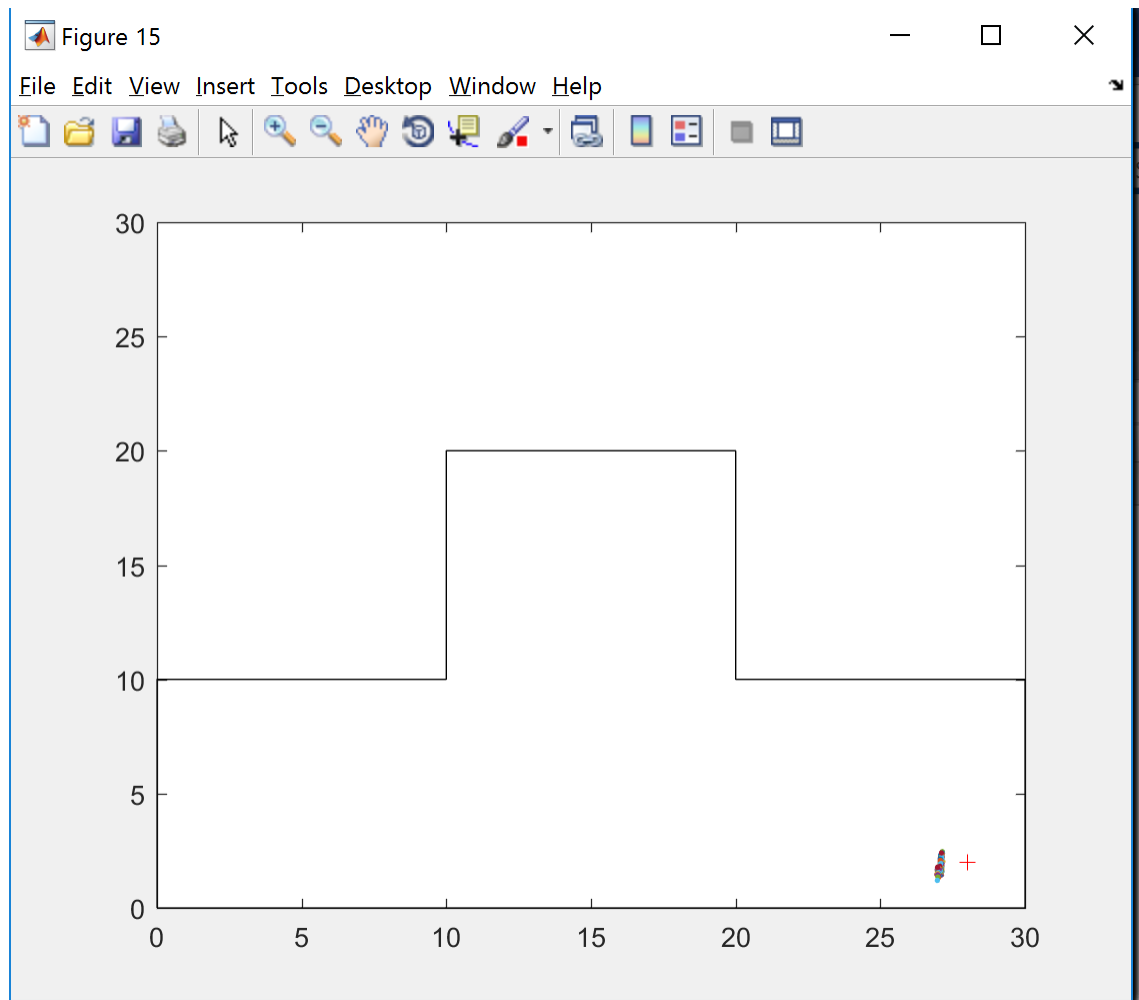Initial position: xpos = 2, ypos = 2, theta = 0

Try M=5000

M=4000

M=6000

M=5800

Thus I will prefer M=6000 in this case.