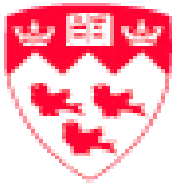
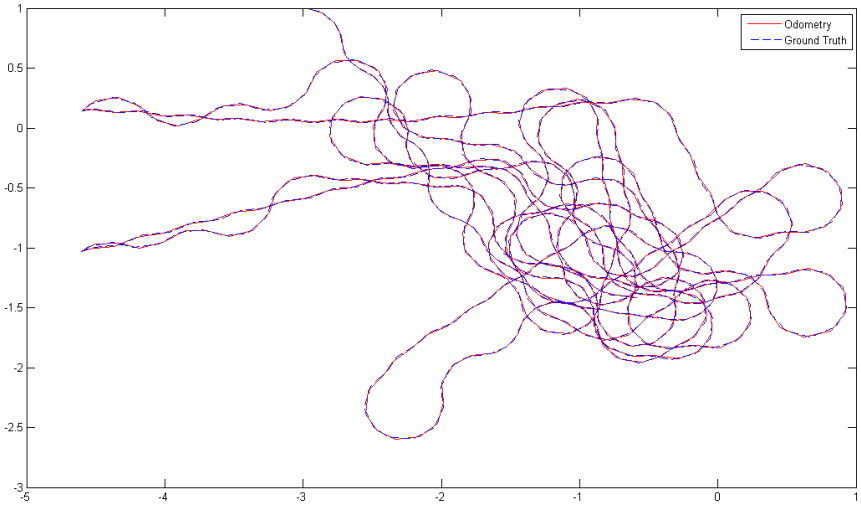


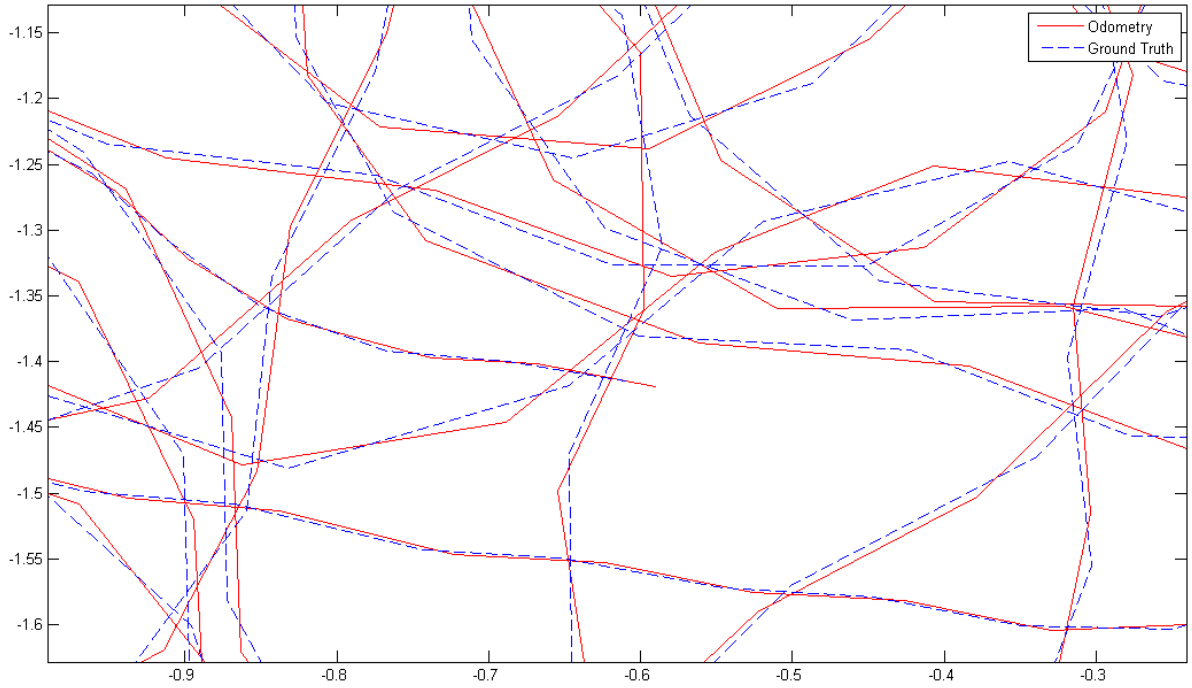
CS-417 INTRODUCTION TO ROBOTICS AND INTELLIGENT SYSTEMS

Using the Sonar in Player/Stage

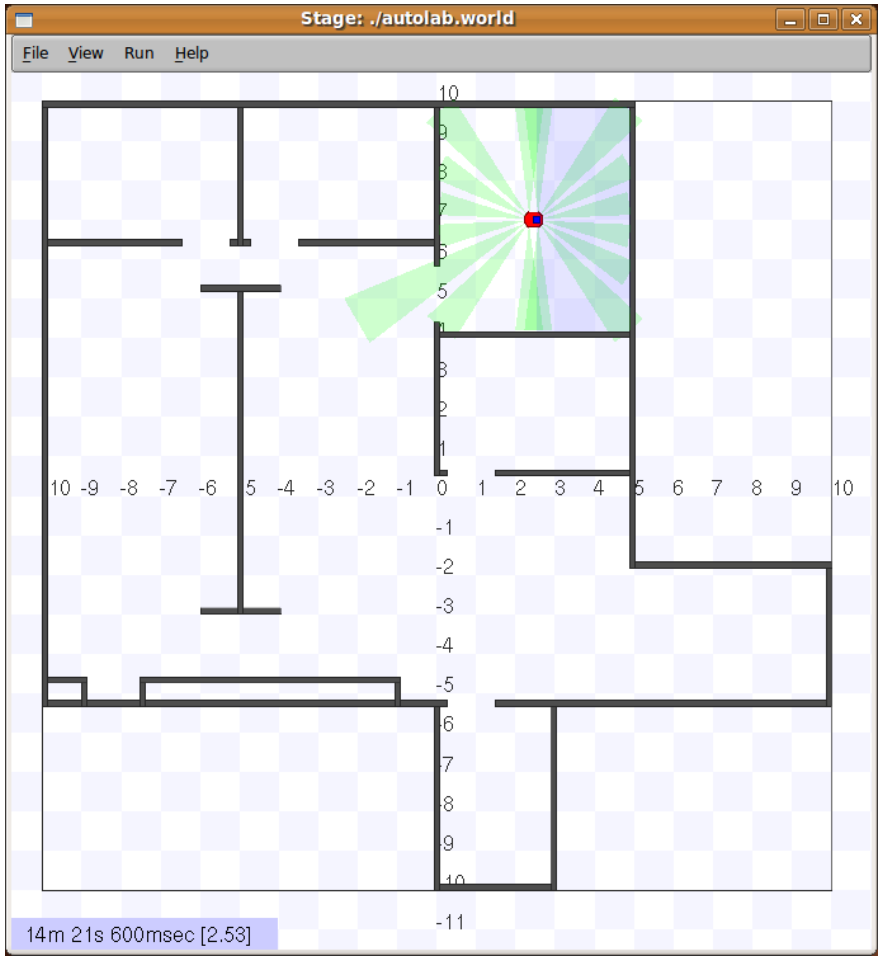
Ioannis Rekleits

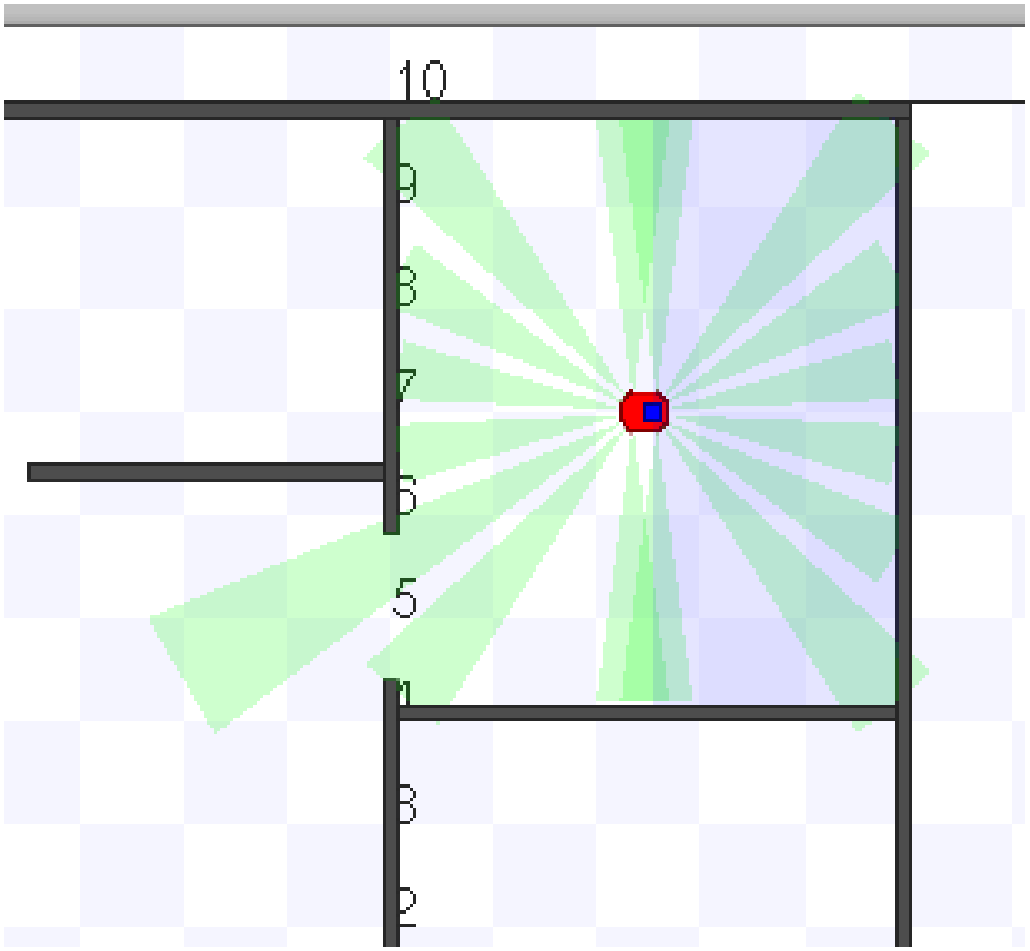
Paths Odometry vs Simulation



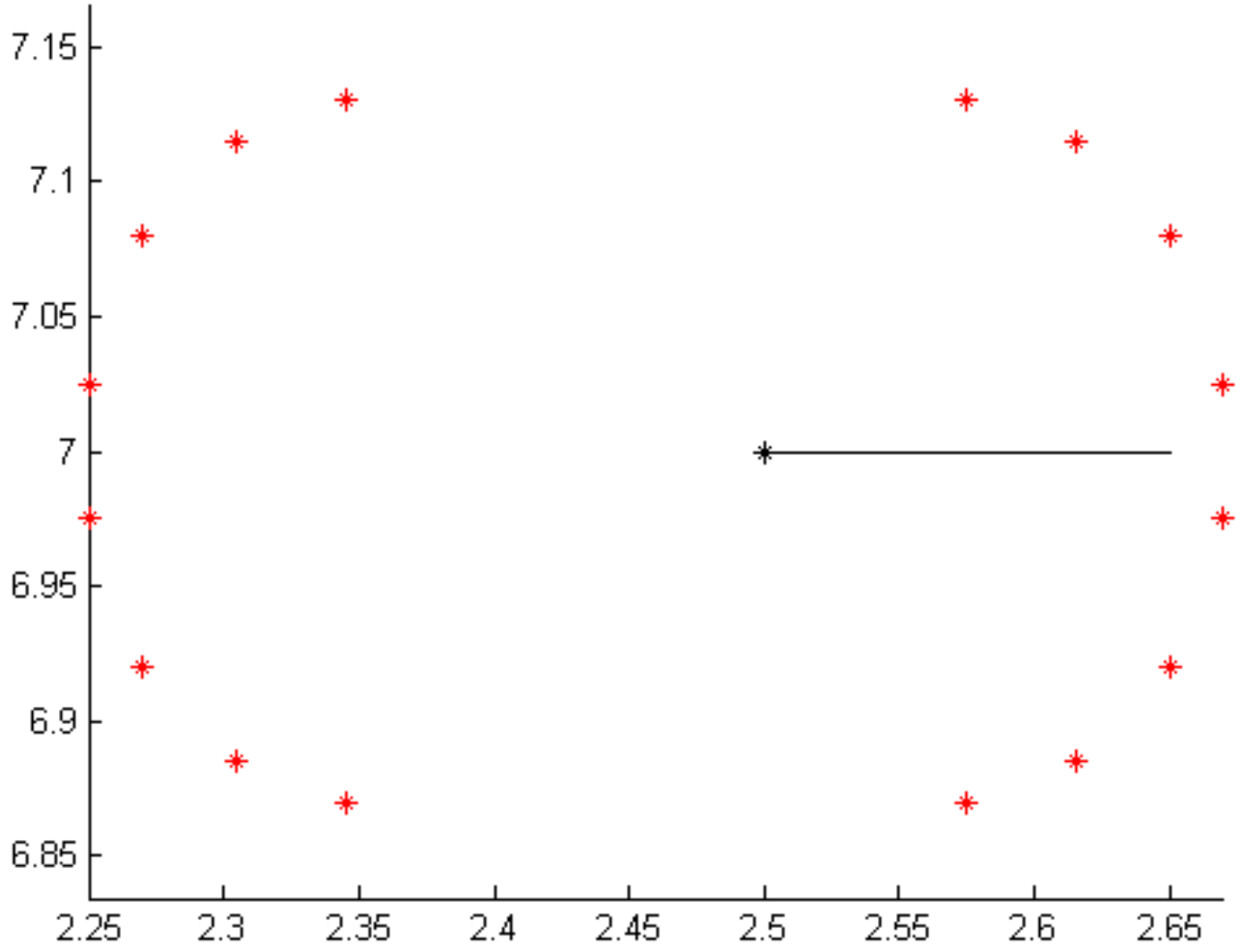


Sonars from P/S

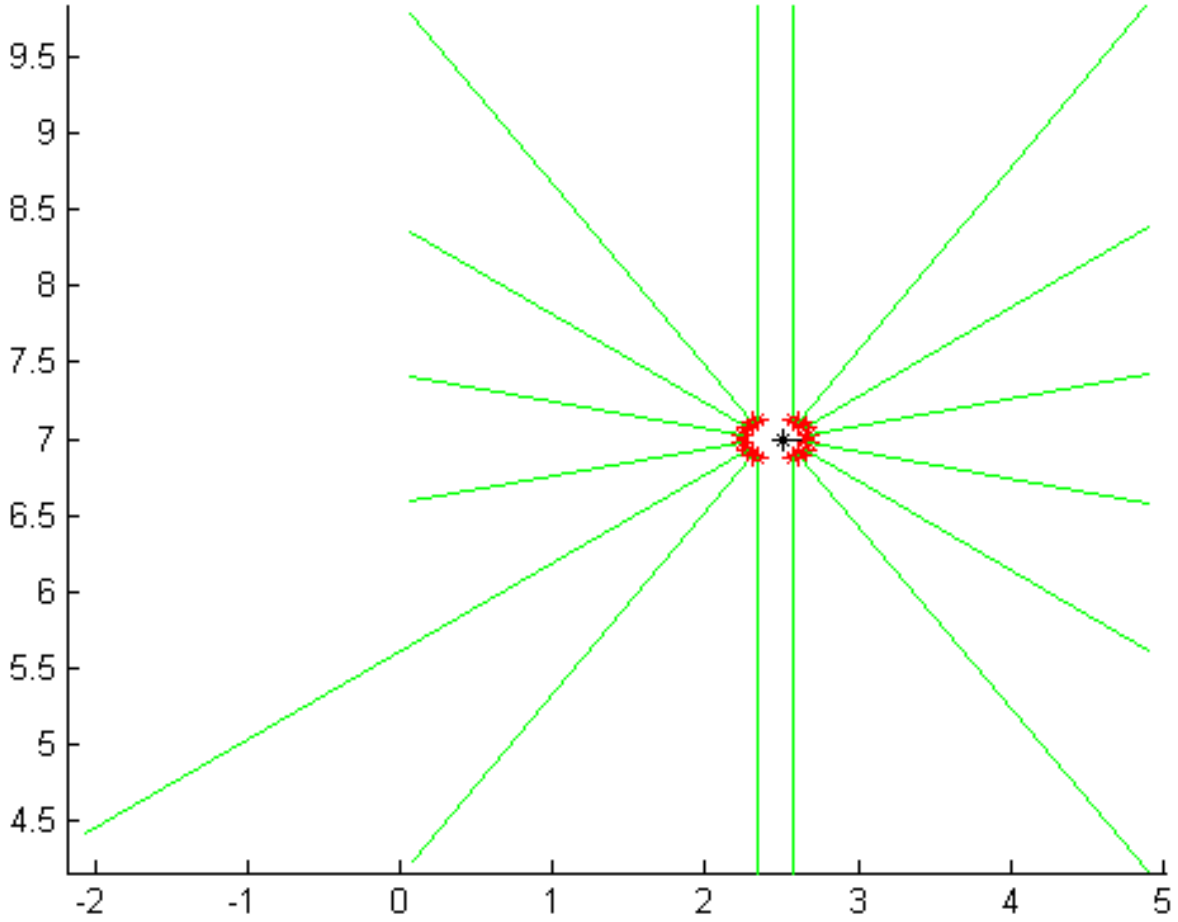


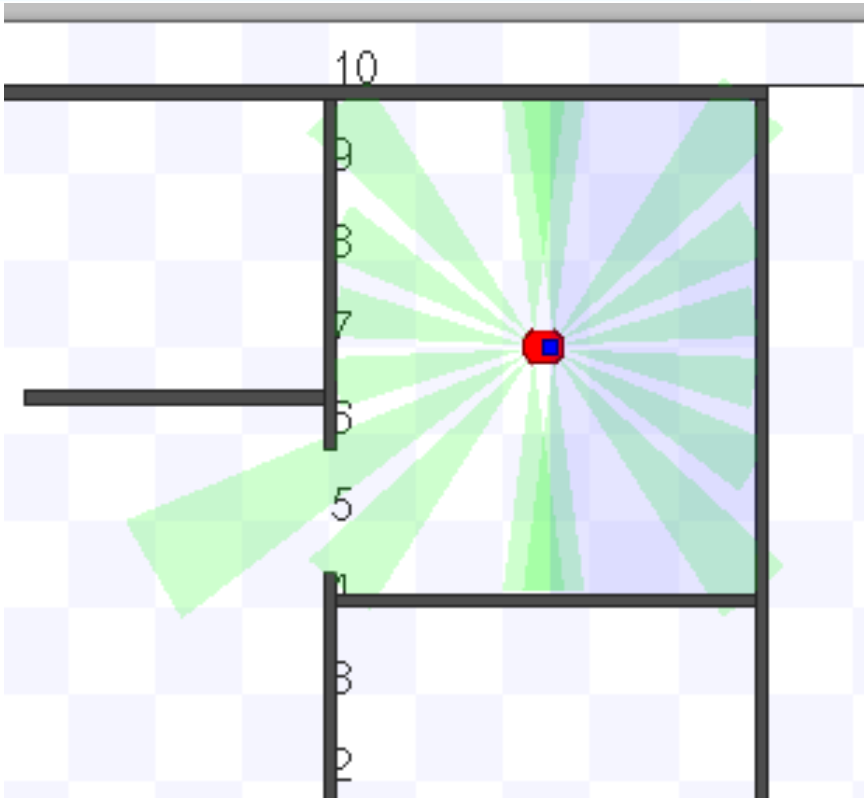


Sonar Locations



Sonar Data Calculation





Matlab code

```
x = a2(1); y = a2(2); yaw = a2(3)*pi/180;
Figure; clf; hold on;
plot(x, y, 'k*');
plot([x x+0.15*cos(yaw)], [y y+0.15*sin(yaw)], 'k');
for i = 1:16
   d = a2(3+(i-1)*4+1);
   dx = a2(3+(i-1)*4+2);     dy = a2(3+(i-1)*4+3);
   sx = x+dx;     sy = y+dy;
   SonarYaw = a2(3+(i-1)*4+4);
   plot(sx, sy, 'r*');
   plot([sx sx+d*cos(SonarYaw )], [sy sy+d*sin(SonarYaw )], 'g');
end;
axis equal;
```

Please Note: the yaw was assumed 0 for these calculations!