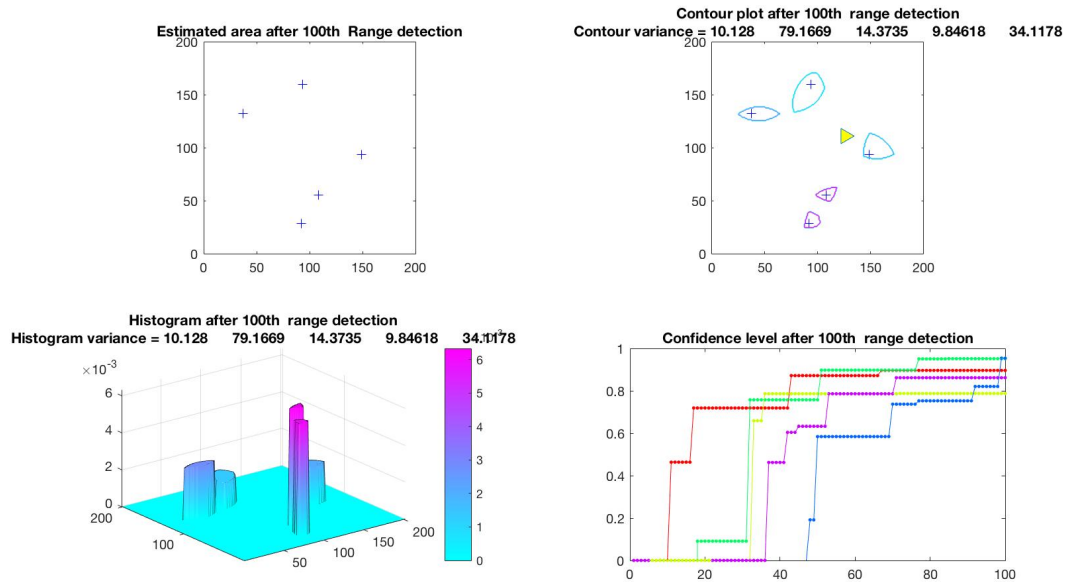# Work report

My aim for next week:
Complete simple path planning simulation, such as scan, double scan. Compare the result with random walk.
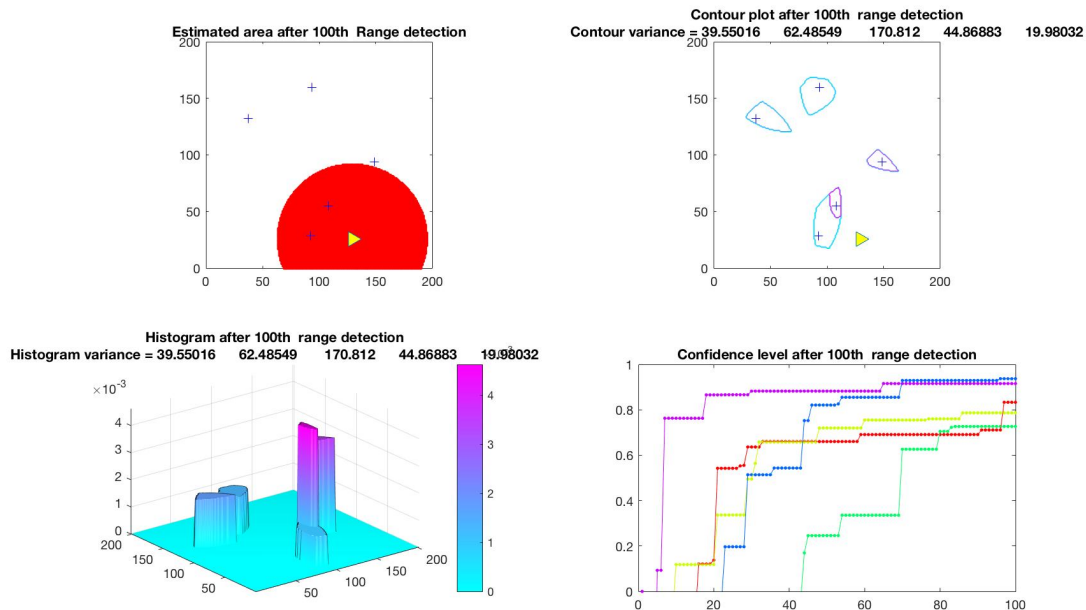**Try to find some new idea from network localization path planning.**

New figures:
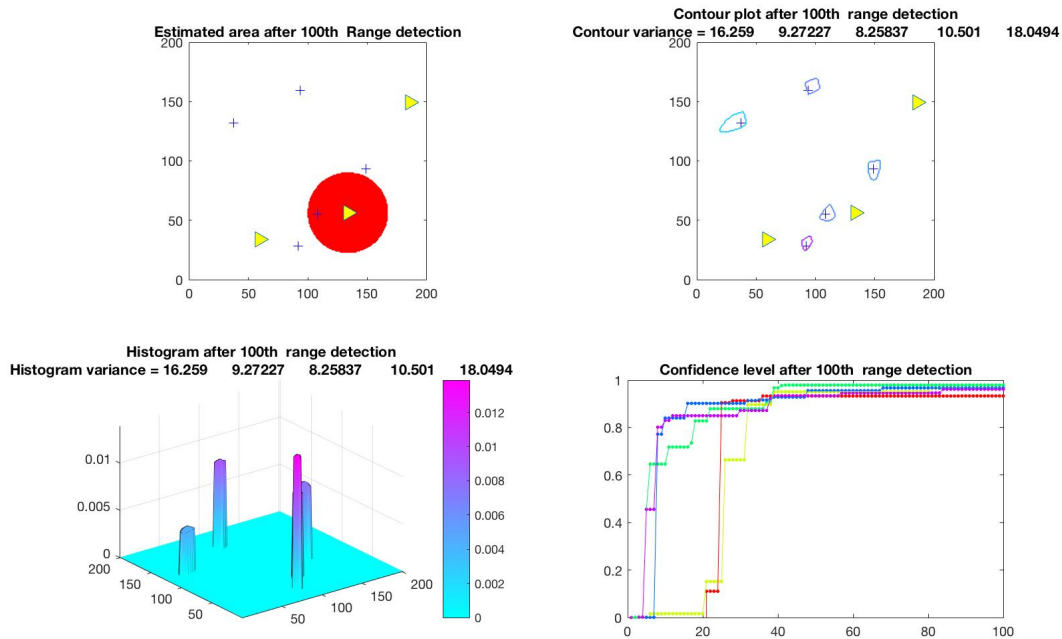**In 200*200 area, 1boat, 5 sensors, detect range 30, white error, W (0,1), 100 step**

In 200*200 area, 1boat, 5 sensors, detect range 60, white error, W (0,2), 100 step

compare first and second image. After 100 step, smaller detect range has smaller average variance, that mean detect range is an important element.

In 200*200 area, 1boat, 5 sensors, detect range 30, white error, W (0,1), 100 step

compare first and third image, After100 step, 3 times boat approximately need 3 times lesser time to achieve same average variance. But the whole process need 3 times energy.

Conclusion:
1. more boats lees time, but more cost.
2. if detect range can be change based on the area. It's another important element in underwater localization.
3. In the reality, we need to balance time, cost and accuracy. That's means path planning can be an important role in underwater localization with mobile robot aid.