

Lab 3 Writeup

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Part V

4. The robot appears to have almost gotten back to its initial position, but it is to the left some, and not at the right angle. There must be some inaccuracy with Mirage that causes this discrepancy
5. The SketchGUI reports a pose of $(x, y, \theta) = (62.85, 103.62, 0.24)$.
6. The particles start out being right on top of each other. As the run goes on, the particles start to spread out. By the end, they have spread out into a blob the same width as the triangle in the sketch GUI. This translates to a box with opposite corners of $(82, 94)$ and $(1.29, 94)$.

x (mm)	y (mm)	θ (rads)
57.65	131.8	6.04
97.33	123.84	5.92
76.89	77.13	5.95
60.78	78.16	6.02
44.54	55.94	6.06

$$Mean = (18.15, 29.33, 0.05)$$

$$StDev = (18.15, 29.33, 0.05)$$

7. Below is a table of the results for VeeTag circum-navigation.

x_i	y_i	θ_i	x_u	y_u	θ_u	distance
40.735	57.049	1.530	-107.622	29.52	1.588	150.890
113.315	100.921	1.425	116.07	112.204	1.425	11.614
3.159	121.989	1.306	-144.07	95.802	1.362	149.719
47.048	203.26	1.249	-84.757	193.879	1.298	241.166
-17.589	136.015	1.448	-162.739	111.989	1.503	147.125