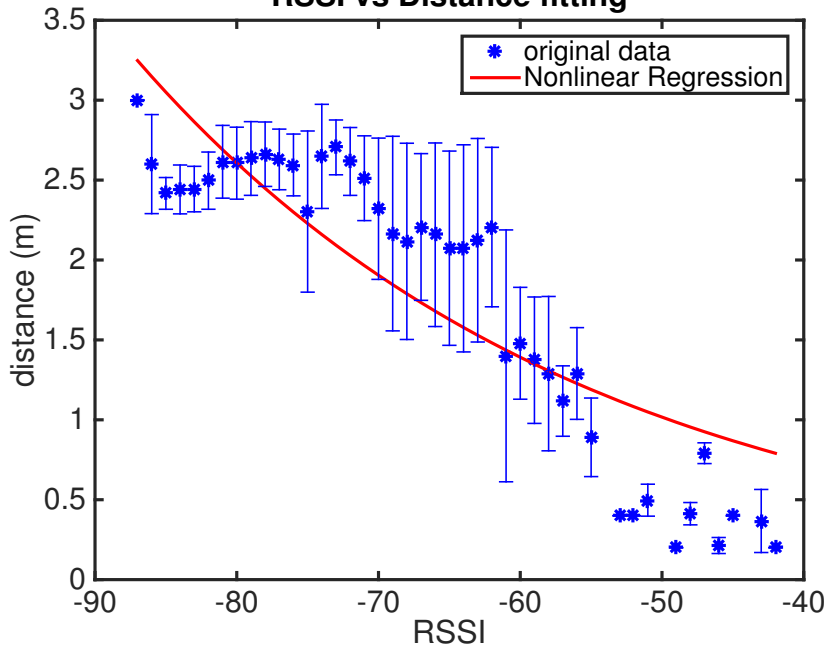
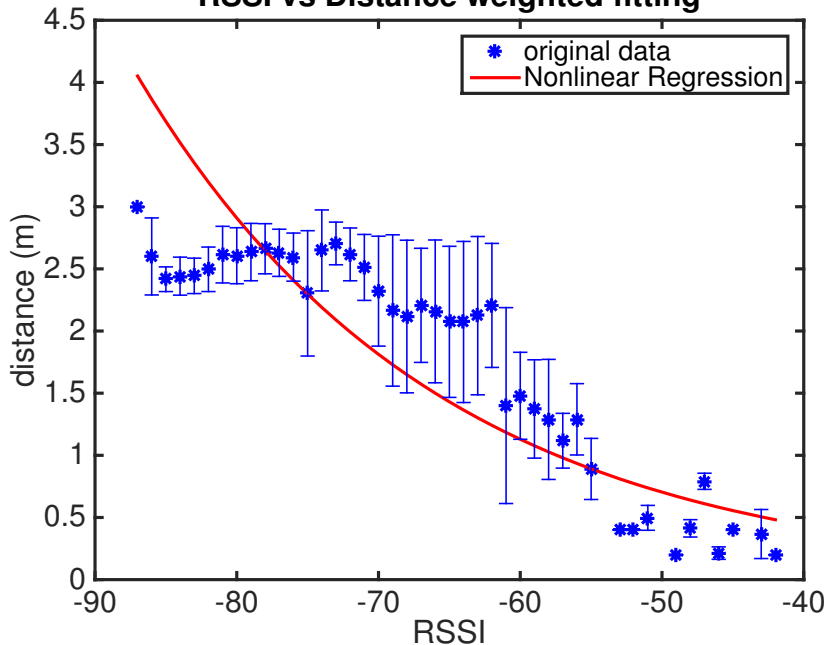


# RSSI vs Distance fitting

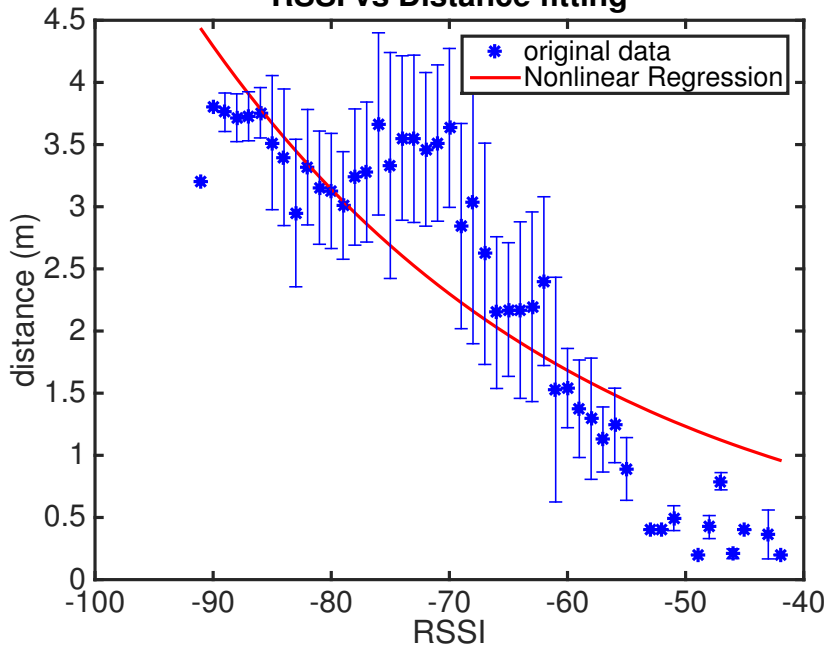


# RSSI vs Distance weighted fitting

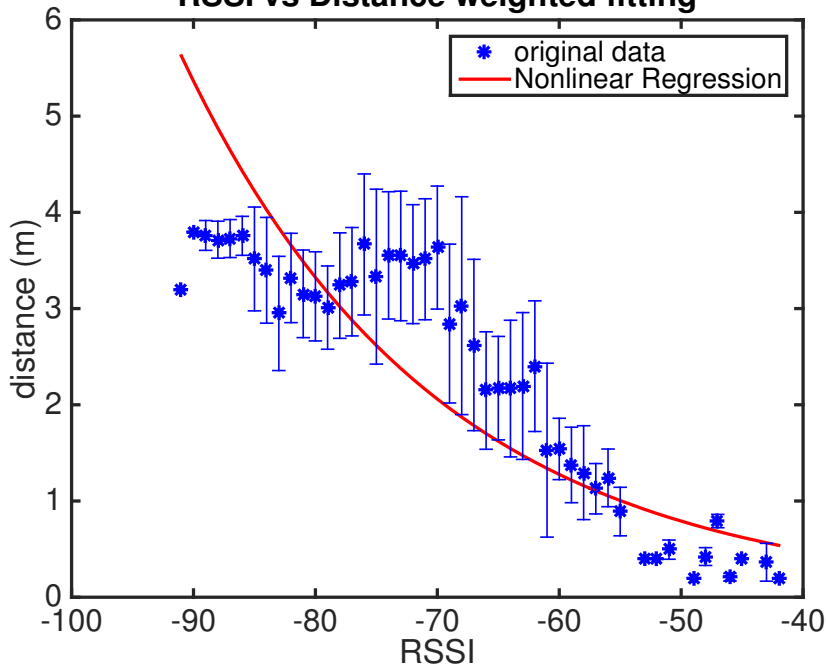


After extend the distance to 4.4m

# RSSI vs Distance fitting

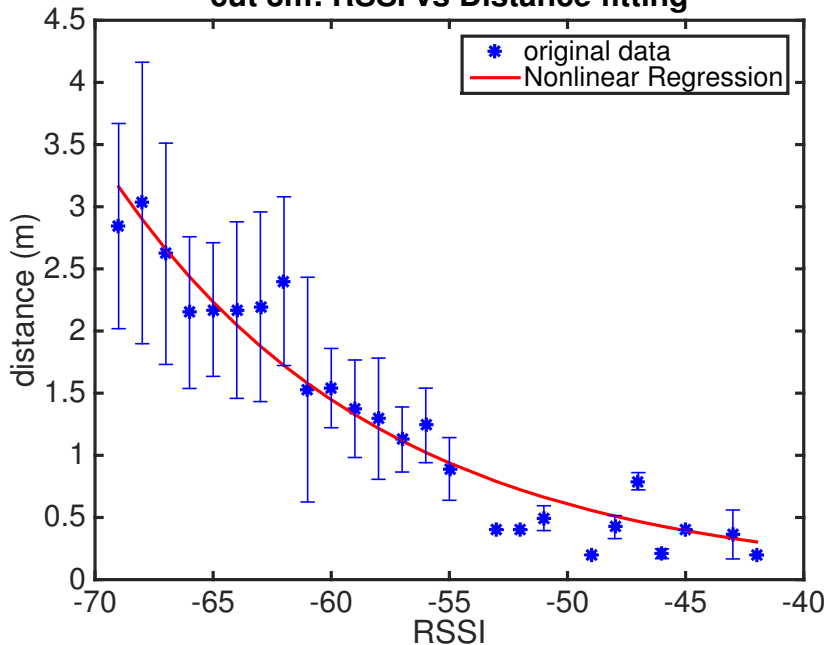


# RSSI vs Distance weighted fitting

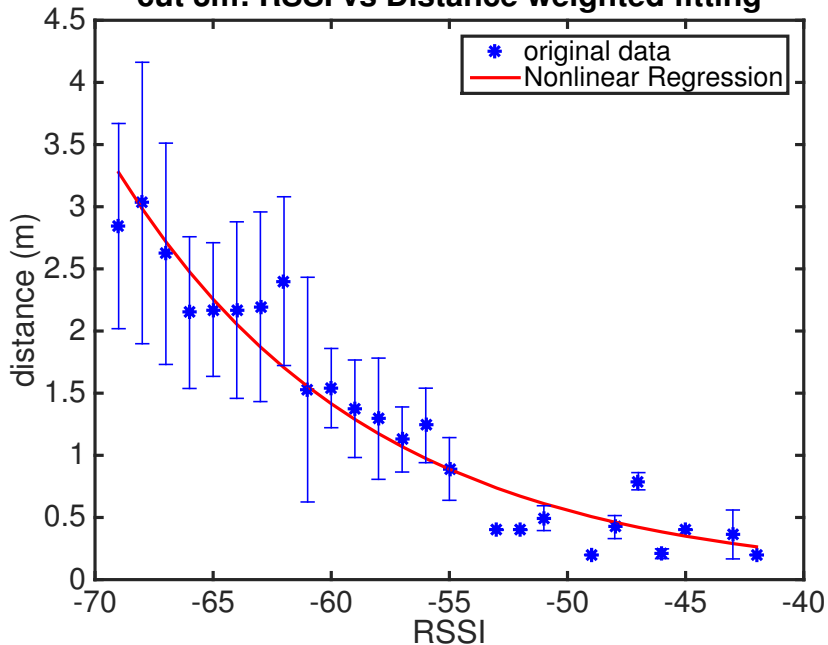


After cutting the mean distance larger than  
3m

cut 3m: RSSI vs Distance fitting

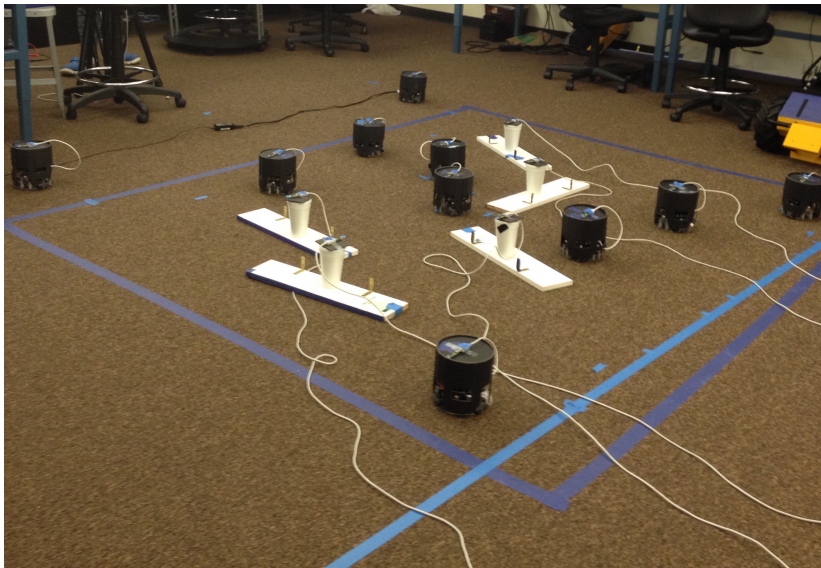


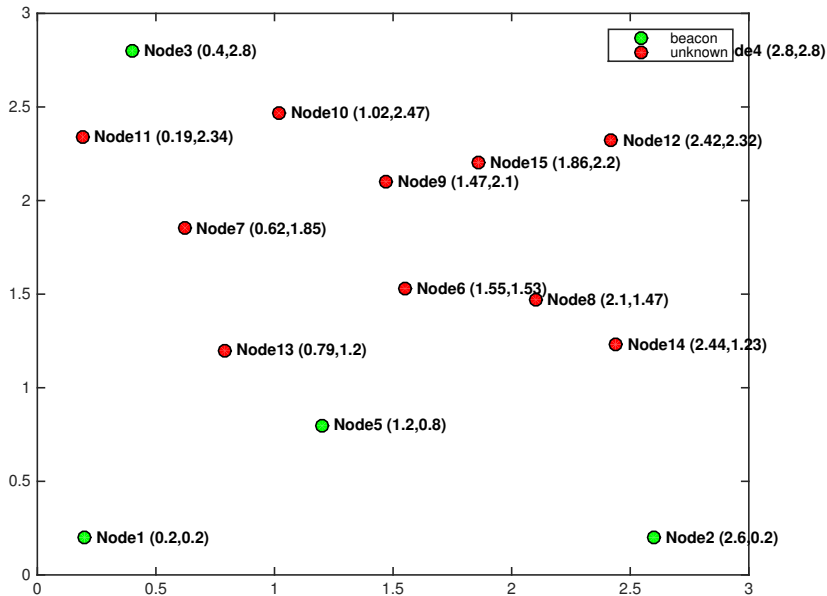
**cut 3m: RSSI vs Distance weighted fitting**





- ▶ rssi distance direct mapping
- ▶ rssi distance fitting
- ▶ rssi distance weighted fitting
- ▶ cut 3m direct mapping
- ▶ cut 3m fitting
- ▶ cut 3m weighted fitting





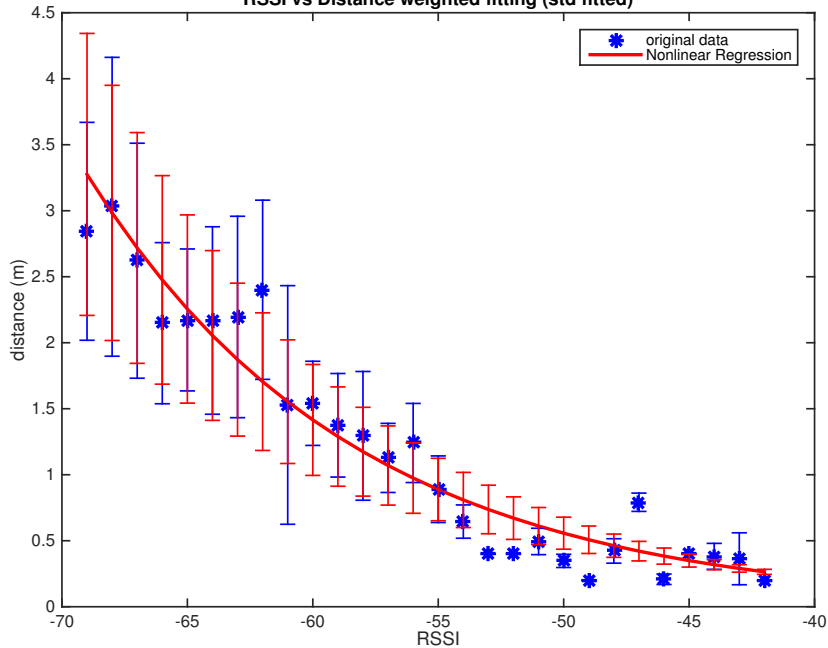
localization errors for kickloc (cut 3m treat outlier as boundary value)

	RSSI to Distance mapping model					
Topology	direct	fitting	weighted fitting	cut 3m direct	cut 3m fitting	cut 3m weighted fitting
1	1.2288	0.5622	0.4823	1.1478	1.1623	1.2600
2	1.2942	1.4003	1.1707	1.3678	1.3309	1.2785
3	1.4390	1.1357	0.9791	1.2043	1.2858	1.3329
4	1.6591	1.3580	1.0879	1.5041	1.4235	1.5219
5	1.4182	1.1367	1.1893	1.2198	1.5674	1.9128
average	1.4079	1.1186	0.9819	1.2887	1.3540	1.4612

# localization errors for kickloc (cut 3m treat discard outlier)

	RSSI to Distance mapping model					
Topology	direct	fitting	weighted fitting	cut 3m direct	cut 3m fitting	cut 3m weighted fitting
1	1.2288	0.5622	0.4823	1.1113	1.0564	1.0894
2	1.2942	1.4003	1.1707	0.9697	0.9849	1.0186
3	1.4390	1.1357	0.9791	1.1492	0.9733	1.1656
4	1.6591	1.3580	1.0879	1.4220	1.9286	1.4352
5	1.4182	1.1367	1.1893	1.2885	1.1299	1.6771
average	1.4079	1.1186	0.9819	1.1881	1.2146	1.2772

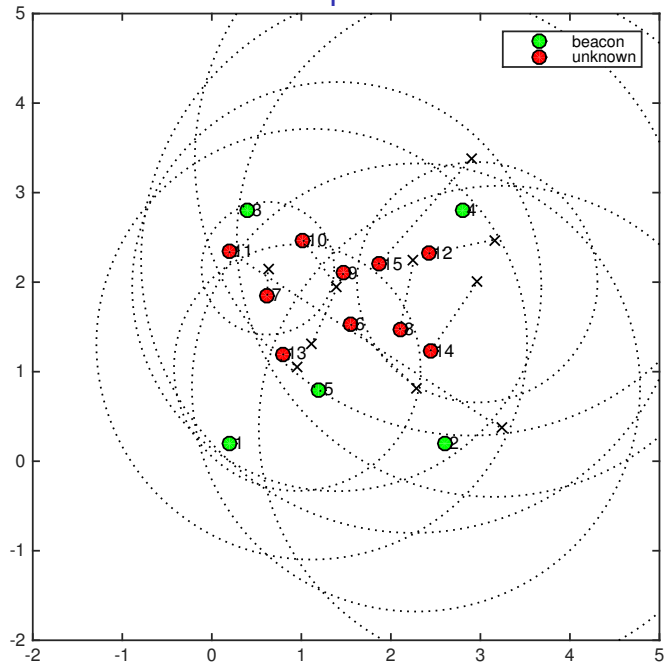
RSSI vs Distance weighted fitting (std fitted)



localization errors for kickloc (cut 3m treat discard outlier,  
distance std fitted)

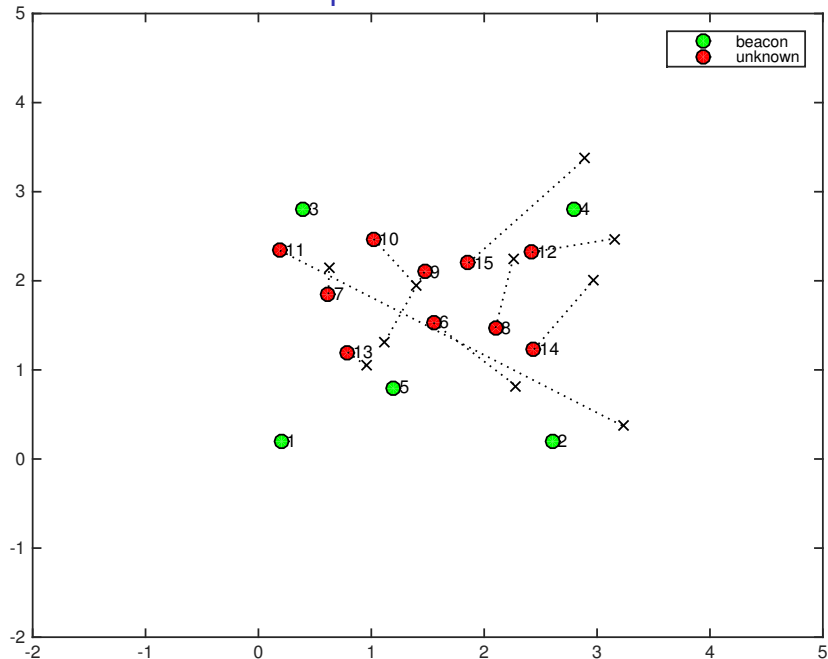
	RSSI to Distance mapping model					
Topology	direct	fitting	weighted fitting	cut 3m direct	cut 3m fitting	cut 3m weighted fitting
1	1.3081	0.6765	0.5074	1.0748	1.0409	1.0713
2	1.3366	1.4216	1.2271	0.9021	0.8996	0.9069
3	1.3971	1.0839	0.9344	1.0996	0.9755	0.9869
4	1.7022	1.1045	1.1086	1.4217	1.2172	1.2443
5	1.6719	1.1286	1.0244	1.2712	1.1804	1.1905
average	1.4832	1.0830	0.9604	1.1539	1.0627	1.0800

## localization result for topo1 method6

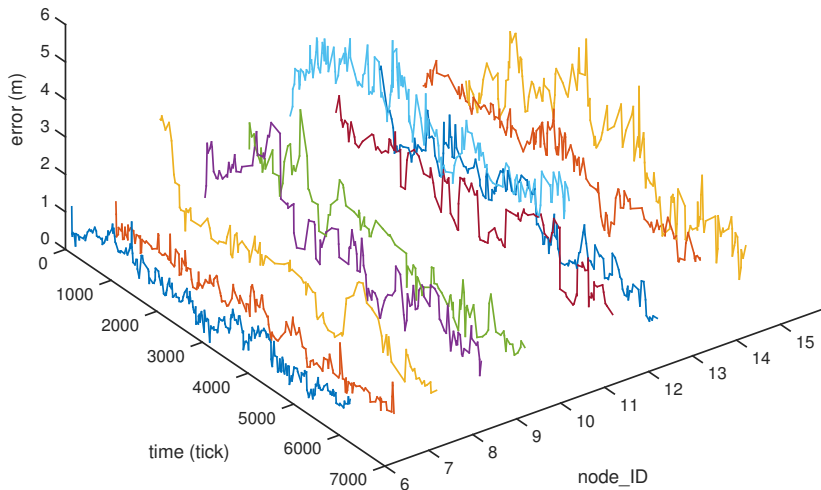




## localization result for topo1 method6



## time evolving result for topo1 method1



# localization errors for kickloc when only leveraging beacon information

	RSSI to Distance mapping model					
Topology	direct	fitting	weighted fitting	cut 3m direct	cut 3m fitting	cut 3m weighted fitting
1	1.5973	0.7827	0.7846	1.3661	1.4071	1.4873
2	1.1622	0.7455	0.8318	1.0589	1.2185	1.2768
3	1.3424	0.8064	0.8584	0.9084	1.2069	1.2656
4	1.7863	1.2275	1.0972	1.4245	1.6041	1.6898
5	1.6743	0.8378	0.8051	1.2402	1.4551	1.6199
average	1.2190	0.8800	0.8754	1.1996	1.3783	1.4679

## average localization errors for different algorithms

	RSSI to Distance mapping model					
Algorithm	direct	fitting	weighted fitting	cut 3m direct	cut 3m fitting	cut 3m weighted fitting
KickLoc	1.4079	1.1186	0.9819	1.2887	1.3540	1.4612
DV-distance	1.1383	0.7624	0.8661	0.8438	1.0111	1.0975
Min-Max	0.6720	0.6679	0.6615	0.6543	0.6817	0.6975
N-hop Lateration	1.2285	0.9009	1.2003	1.0120	1.1691	1.2712