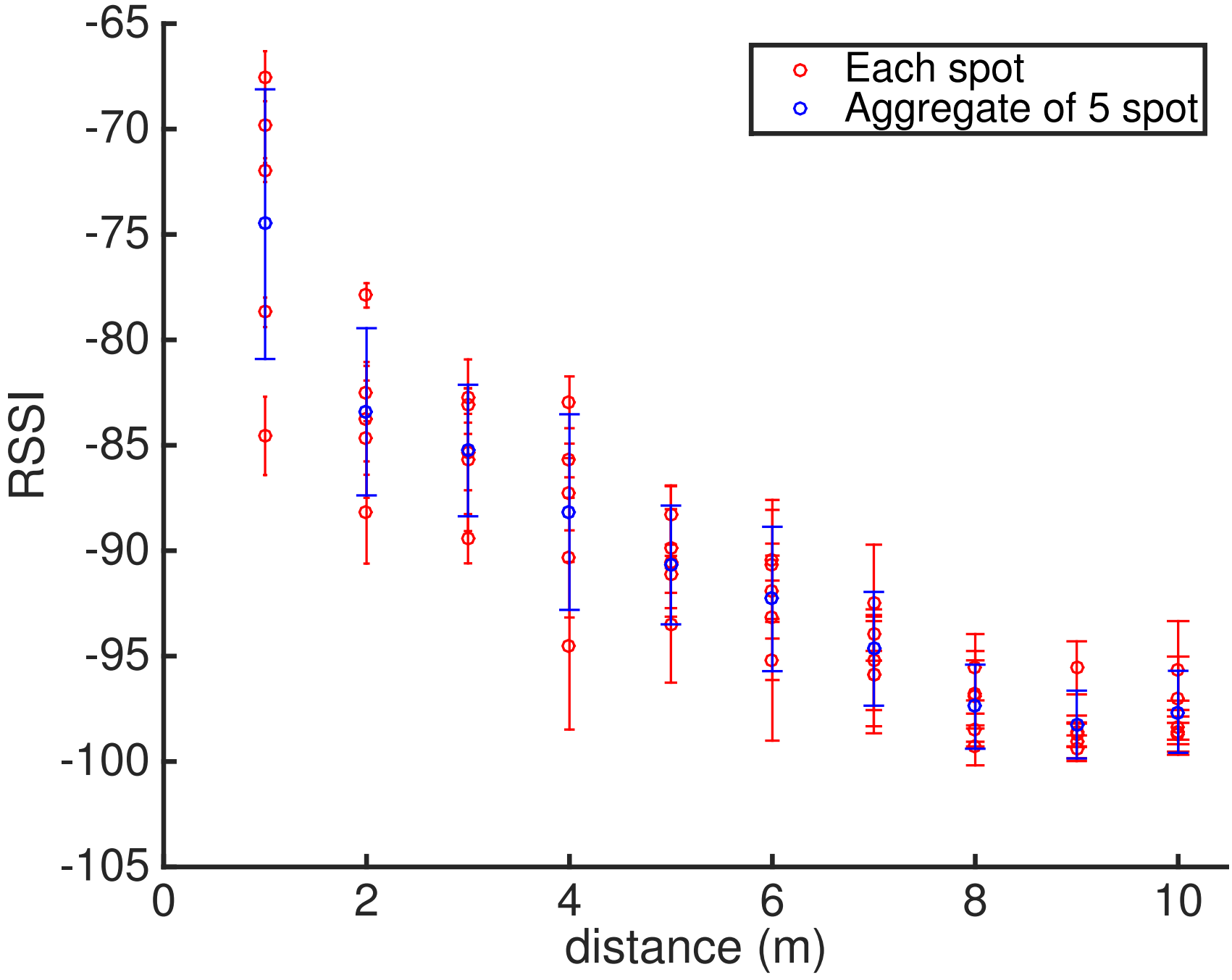
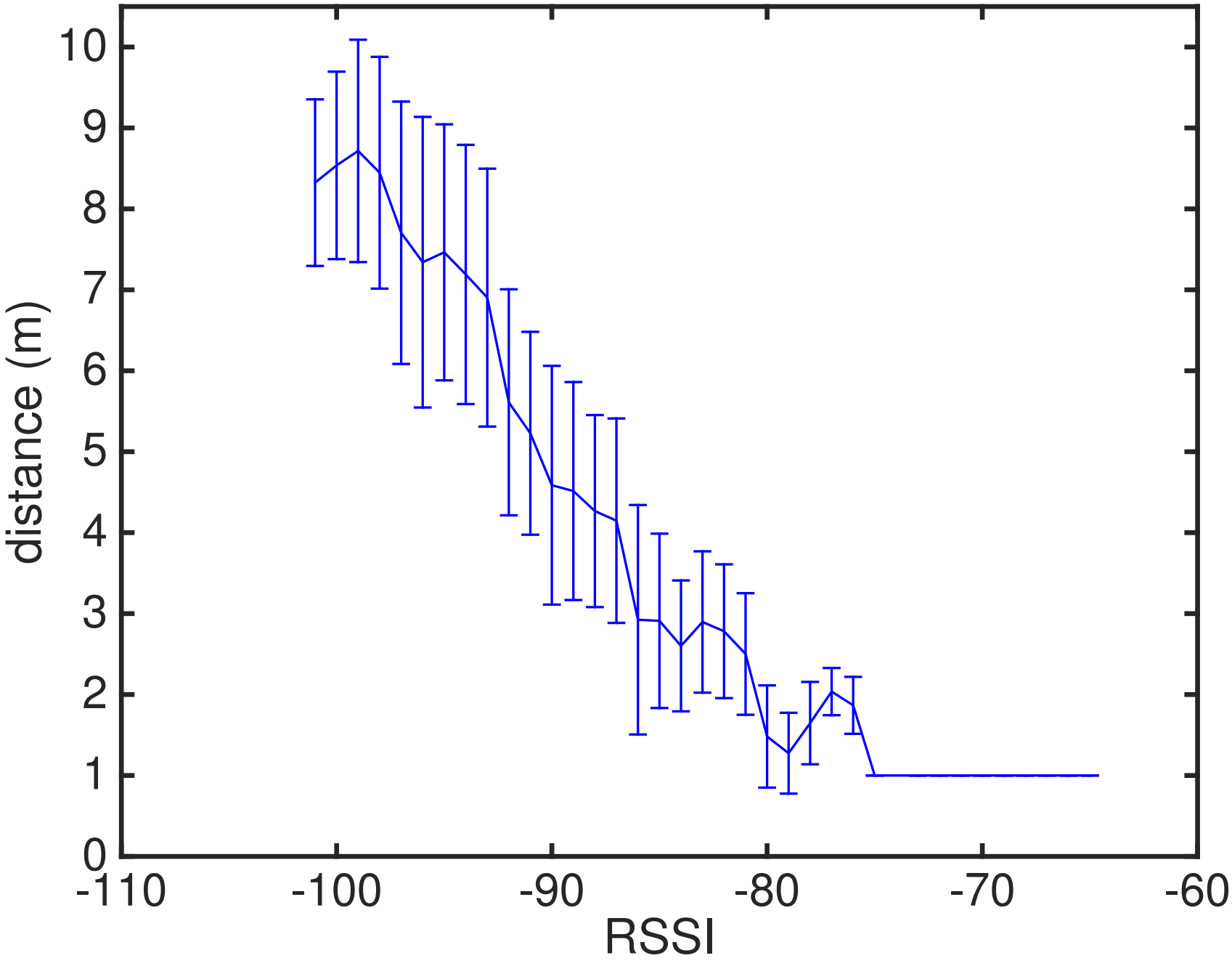
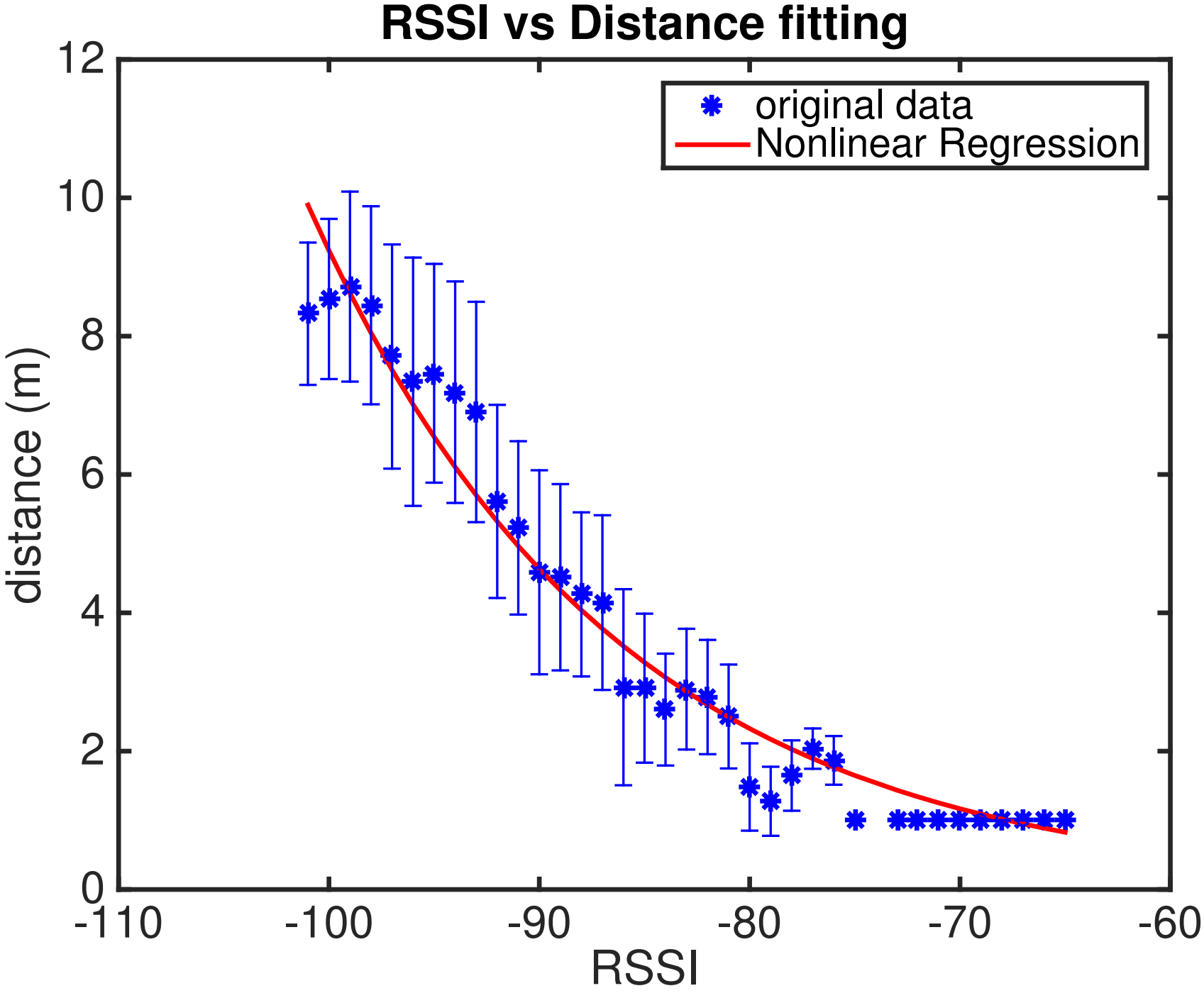
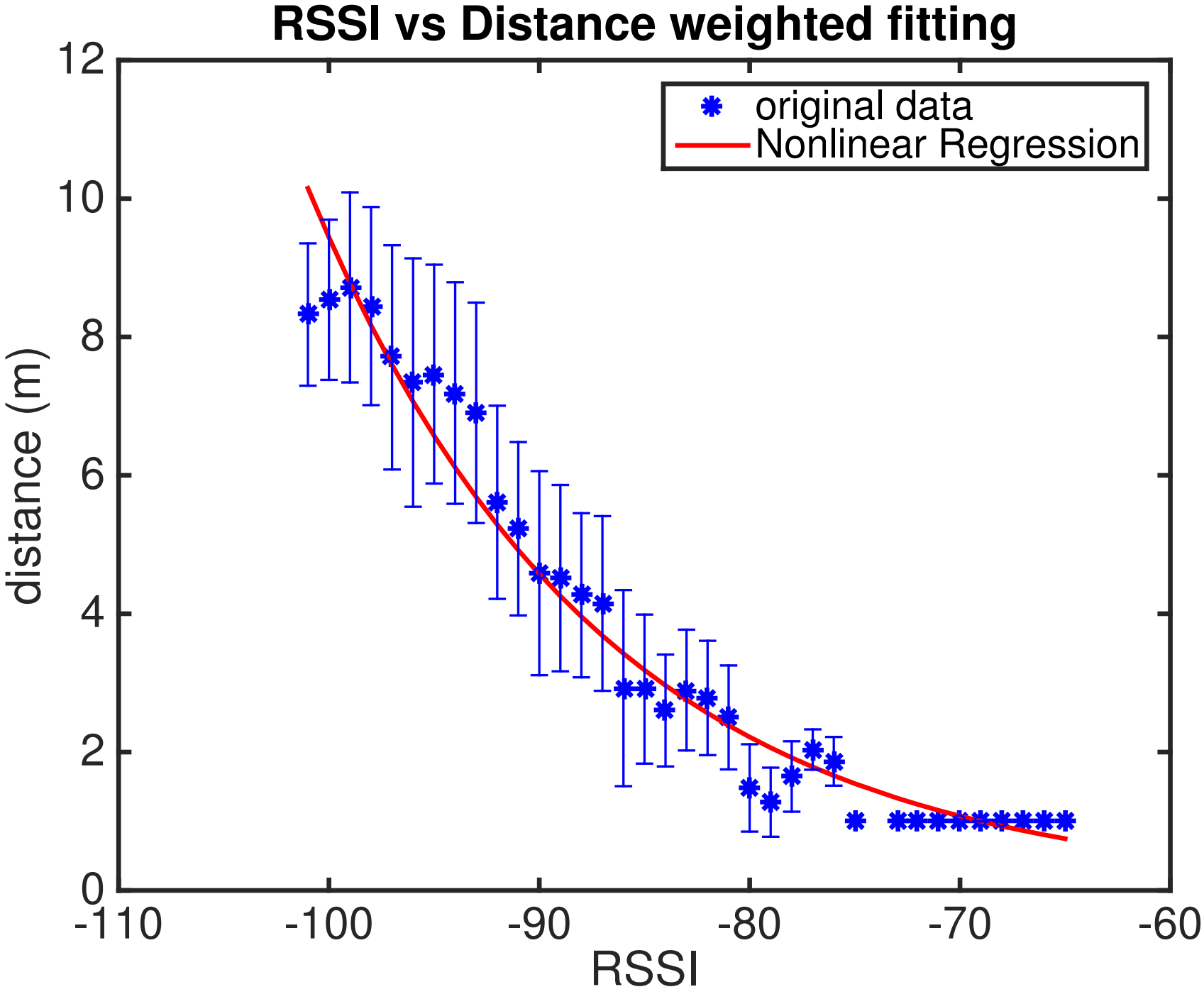

-65
-70
-75
-80
-85
-90
-95
-100
-105
RSSI
0
2
4
6
8
10
distance (m)
Each spot
Aggregate of 5 spot

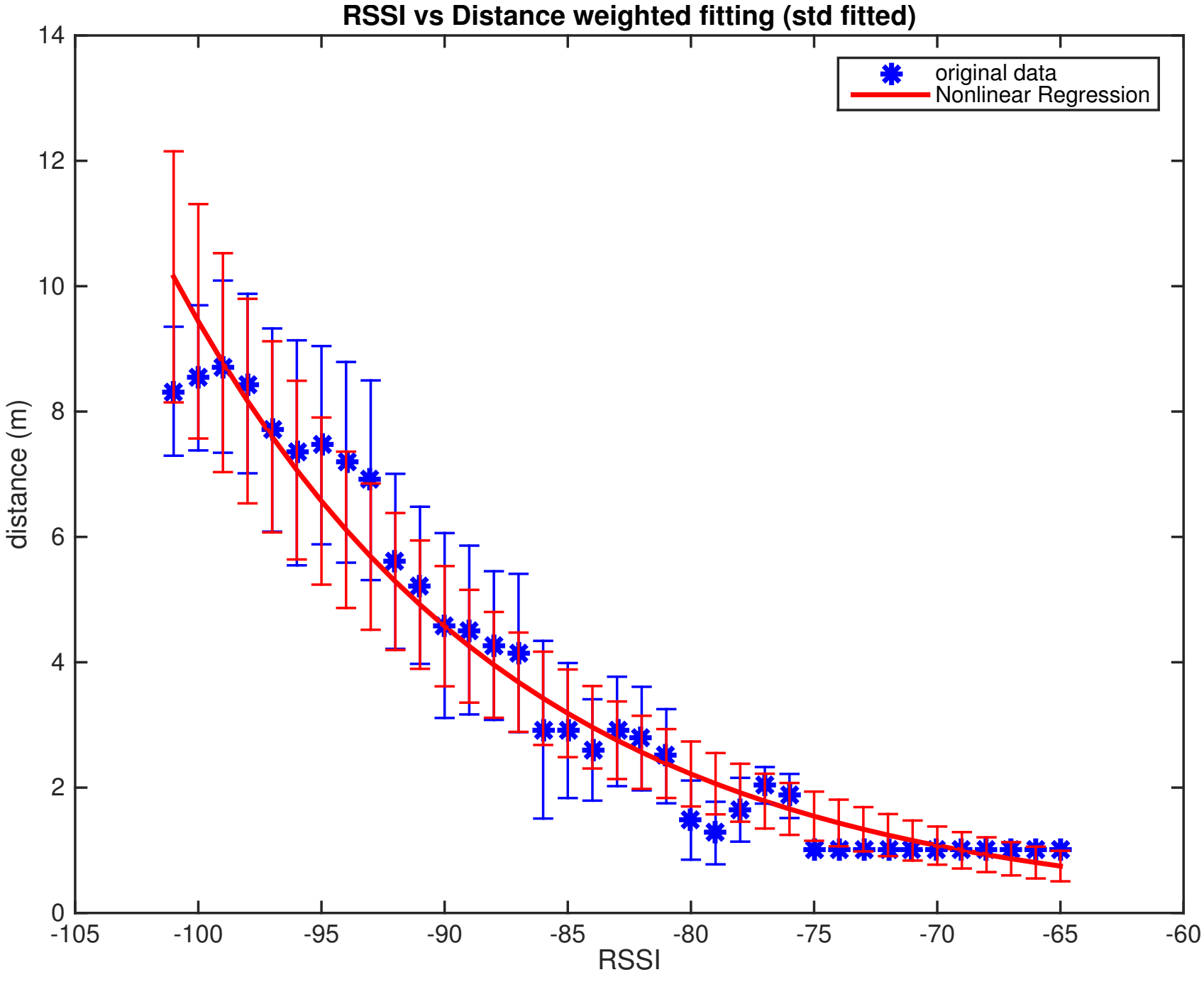
Three mapping methods

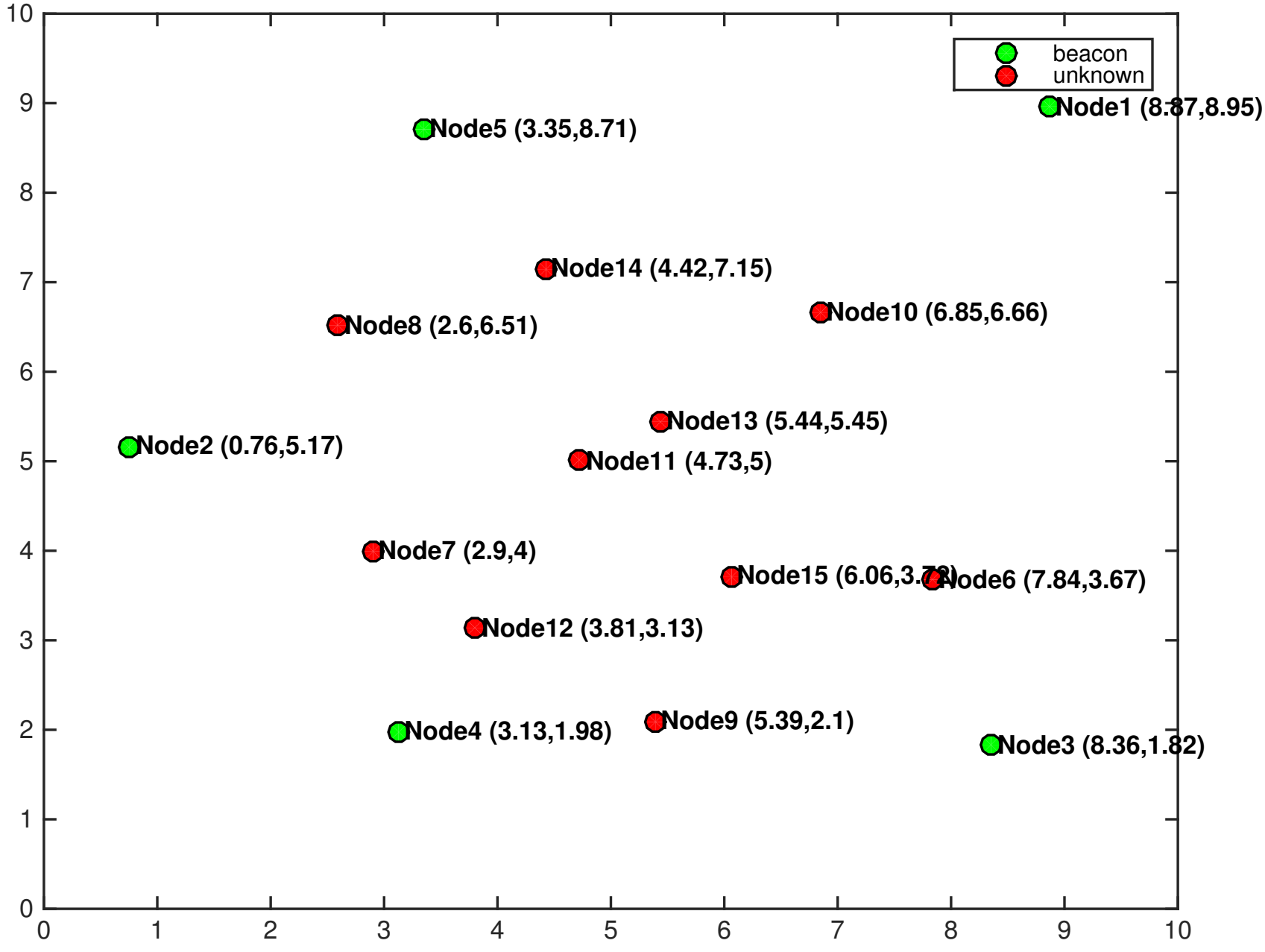
- rssi distance direct mapping
- rssi distance fitting
- rssi distance weighted fitting


distance (m)
RSSI
10
9
8
7
6
5
4
3
2
1
0
-110
-100
-90
-80
-70
-60


RSSI vs Distance fitting
original data
Nonlinear Regression
distance (m)
RSSI
12
10
8
6
4
2
0
-110
-100
-90
-80
-70
-60


RSSI vs Distance weighted fitting
original data
Nonlinear Regression
distance (m)
RSSI
12
10
8
6
4
2
0
-110
-100
-90
-80
-70
-60

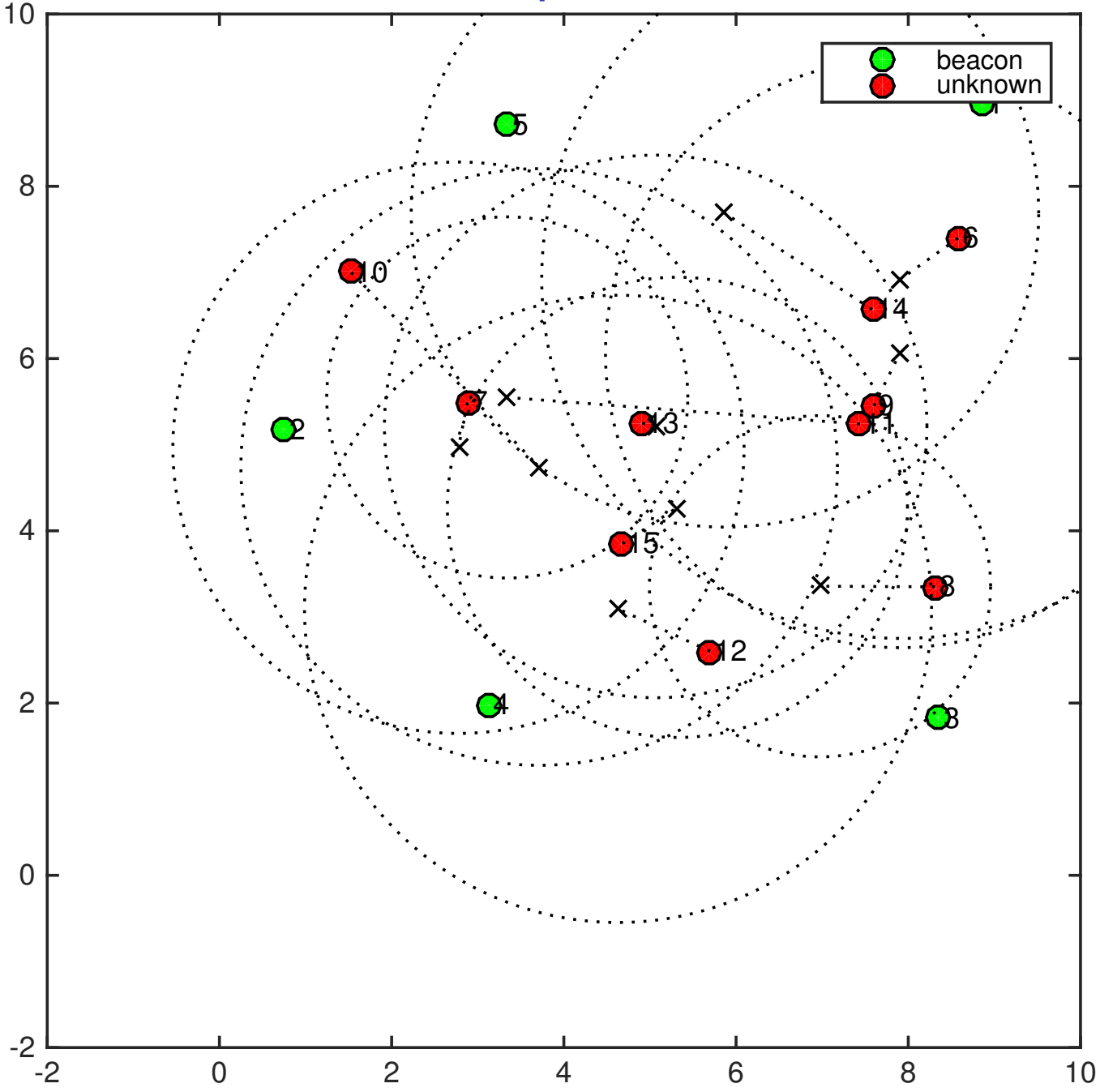

RSSI vs Distance weighted fitting (std fitted)
original data
Nonlinear Regression
distance (m)
RSSI
14
12
10
8
6
4
2
0
-105
-100
-95
-90
-85
-80
-75
-70
-65
-60


beacon
unknown
Node1 (8.87,8.95)
Node5 (3.35,8.71)
Node14 (4.42,7.15)
Node10 (6.85,6.66)
Node8 (2.6,6.51)
Node13 (5.44,5.45)
Node2 (0.76,5.17)
Node11 (4.73,5)
Node7 (2.9,4)
Node15 (6.06,3.78)
Node6 (7.84,3.67)
Node12 (3.81,3.13)
Node9 (5.39,2.1)
Node4 (3.13,1.98)
Node3 (8.36,1.82)
0
1
2
3
4
5
6
7
8
9
10

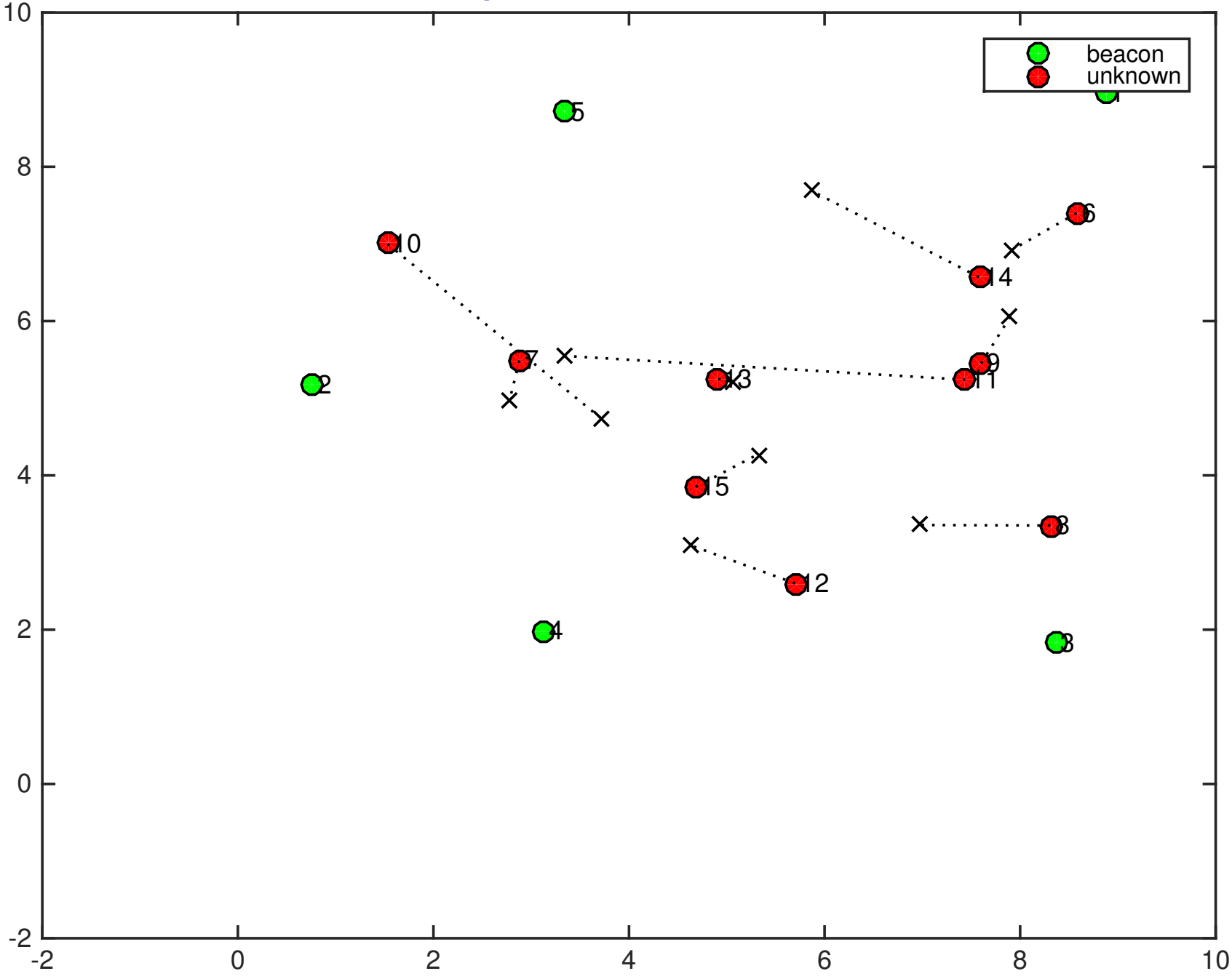
localization errors for kickloc

	RSSI to Distance mapping model		
Topology	direct	fitting	weighted fitting
1	2.7585	2.3372	2.3672
2	2.1123	2.1512	2.1573
3	2.2952	2.2325	2.2487
4	1.5604	1.4542	1.4762
5	1.9285	1.8977	1.9164
average	2.1310	2.0146	2.0332

localization result for topo4 method3



localization result for topo4 method3



average localization errors for different algorithms

	RSSI to Distance mapping model		
Algorithm	direct	fitting	weighted fitting
KickLoc	2.1310	2.0146	2.0332
DV-distance	2.7187	2.5311	2.5992
Min-Max	2.1845	2.0676	2.0704
N-hop Lateration	3.0825	2.8399	2.8816