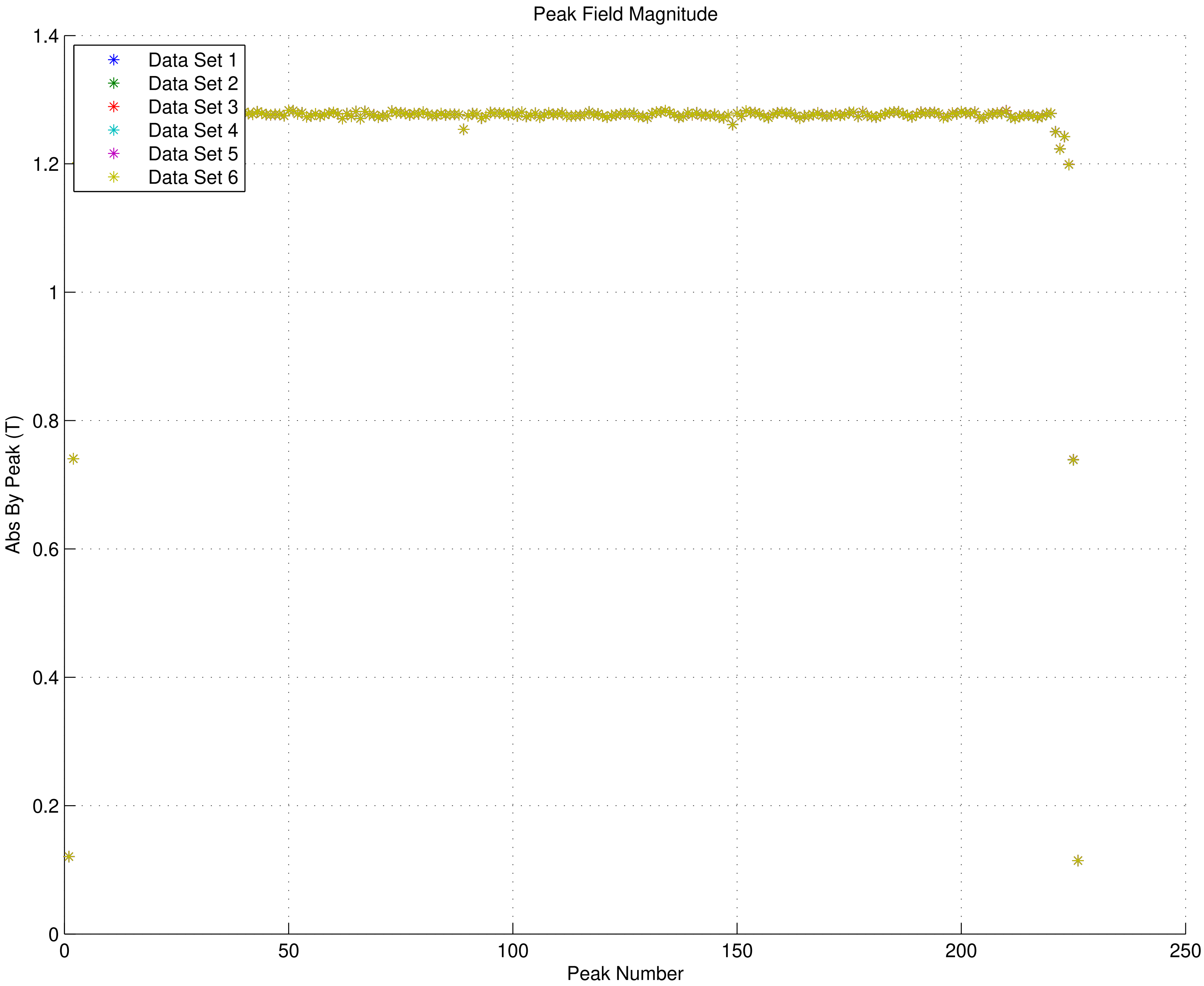
SLAC Magnetic Measurements
Undulator Analysis Comparison

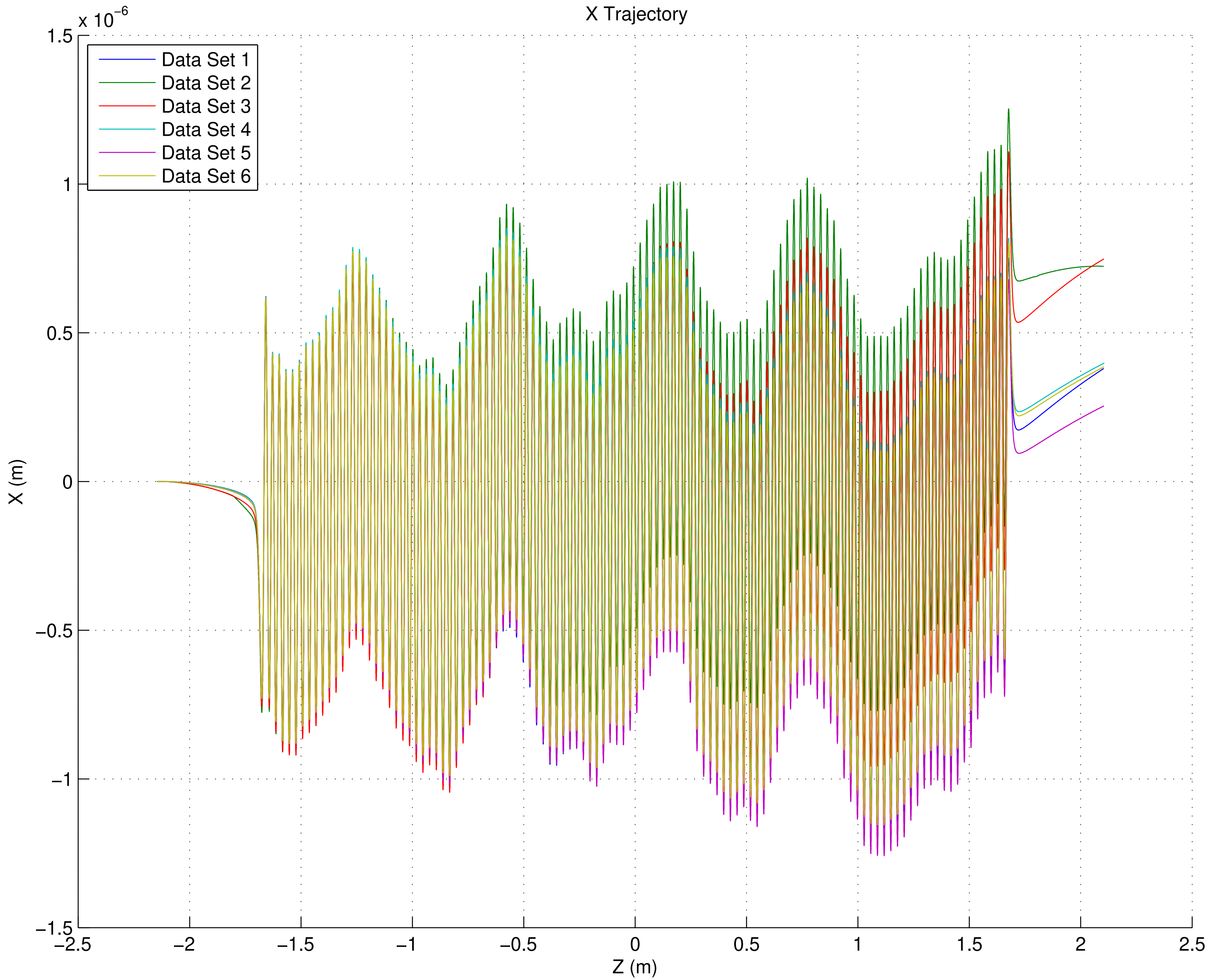
Title:
SN13, Reference Undulator

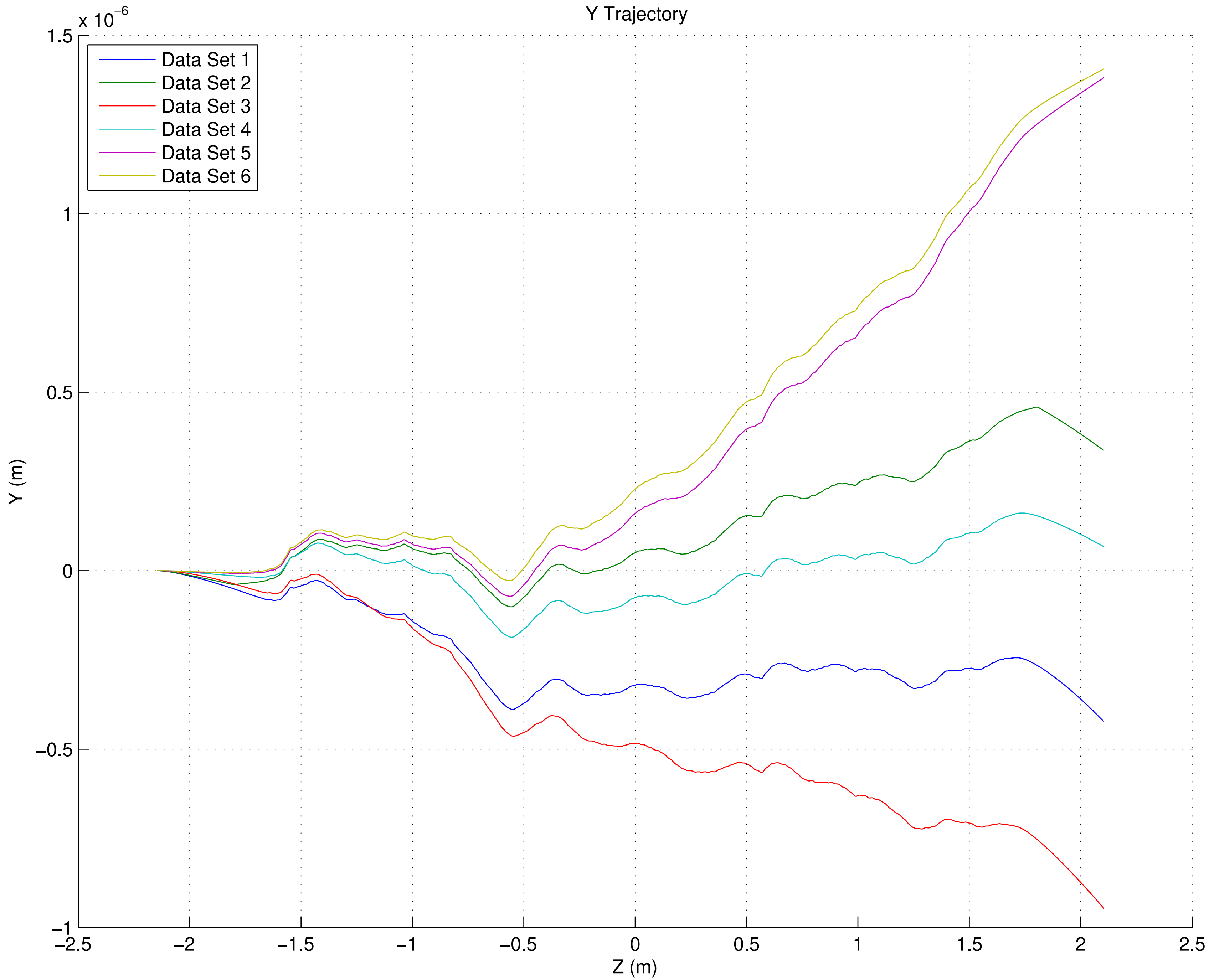
Input Files:
1) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0001\Fine Tuning\Z Scans\Run 059\id_anal.mat
2) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0002\Fine Tuning\Z Scans\Run 005\id_anal.mat
3) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0003\Fine Tuning\Z Scans\Run 005\id_anal.mat
4) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0004\Fine Tuning\Z Scans\Run 005\id_anal.mat
5) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0005\Fine Tuning\Z Scans\Run 005\id_anal.mat
6) V:\MET\MagServe\MagData\LCLS\Undulator\L143–112000–13\DATASET0006\Fine Tuning\Z Scans\Run 006\id_anal.mat



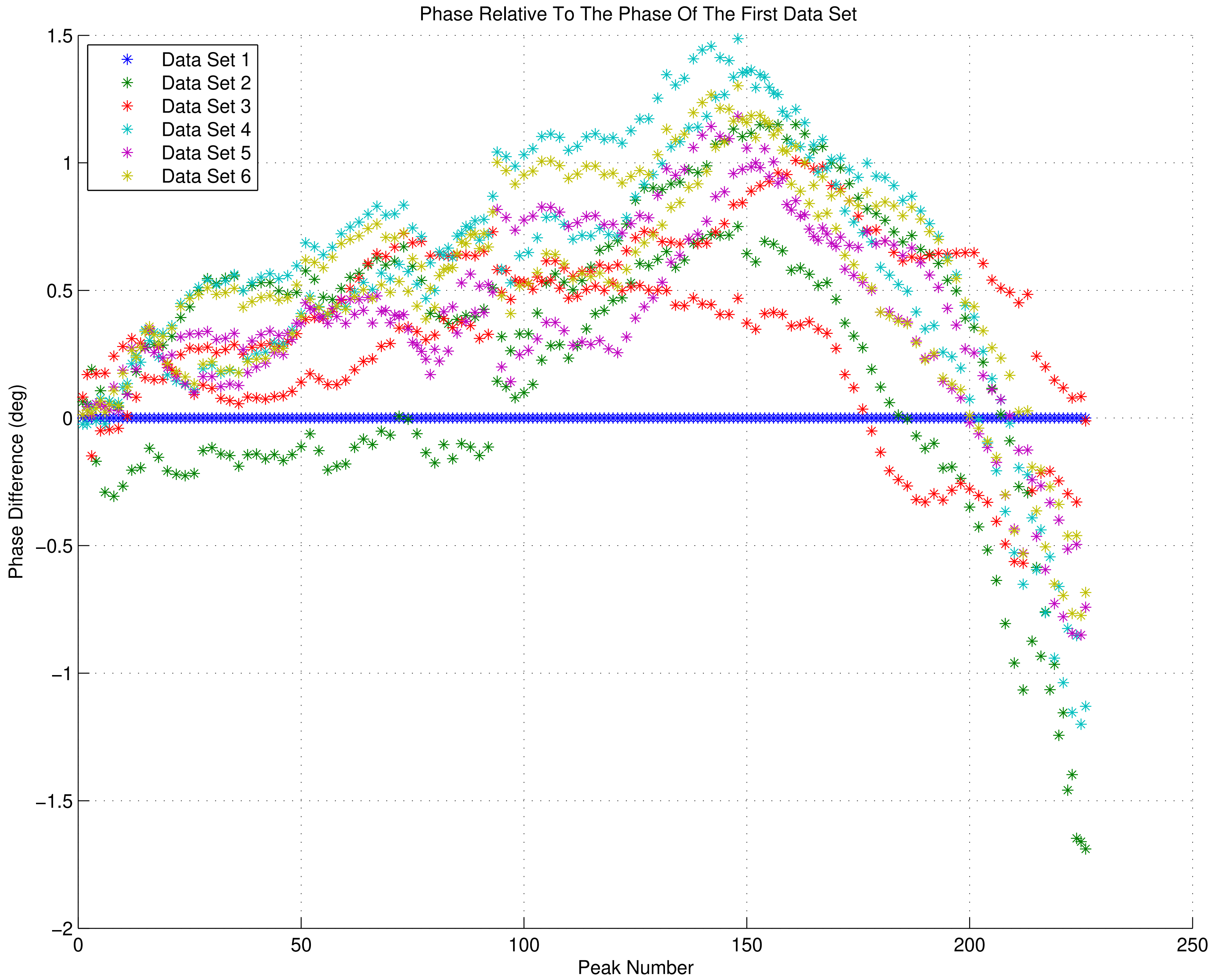
Peak Field Magnitude
Abs By Peak (T)
Peak Number
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
50
100
150
200
250

Peak Field Magnitude Relative To The First Data Set
x 10^-4
4
2
0
−2
−4
−6
−8
Abs By Peak Difference (T)
0
50
100
150
200
250
Peak Number
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6

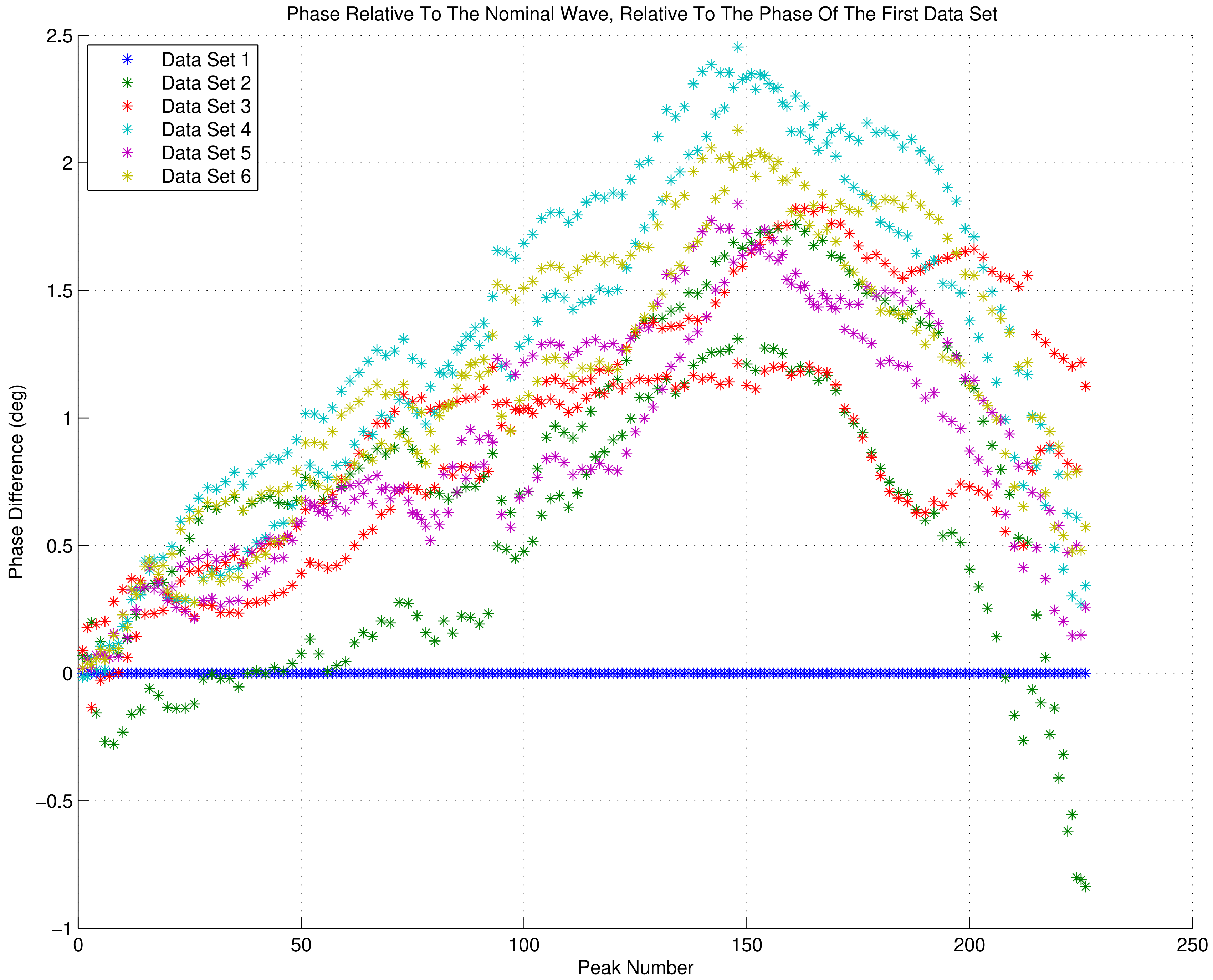

X Trajectory
x 10^−6
1.5
1
0.5
0
−0.5
−1
−1.5
X (m)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z (m)
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6



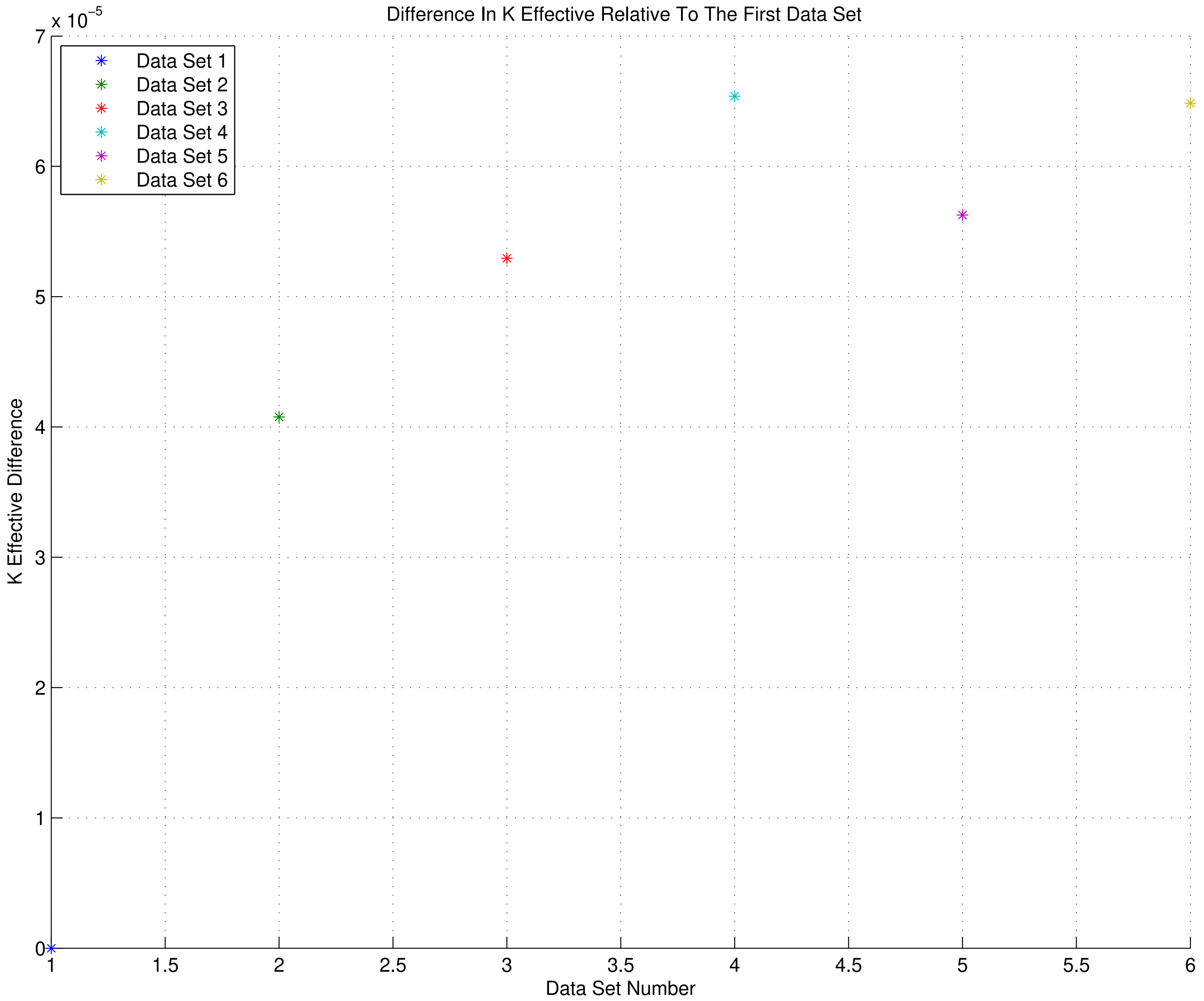
Y Trajectory
x 10^-6
1.5
1
0.5
0
−0.5
−1
Y (m)
−2.5
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2
2.5
Z (m)
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6

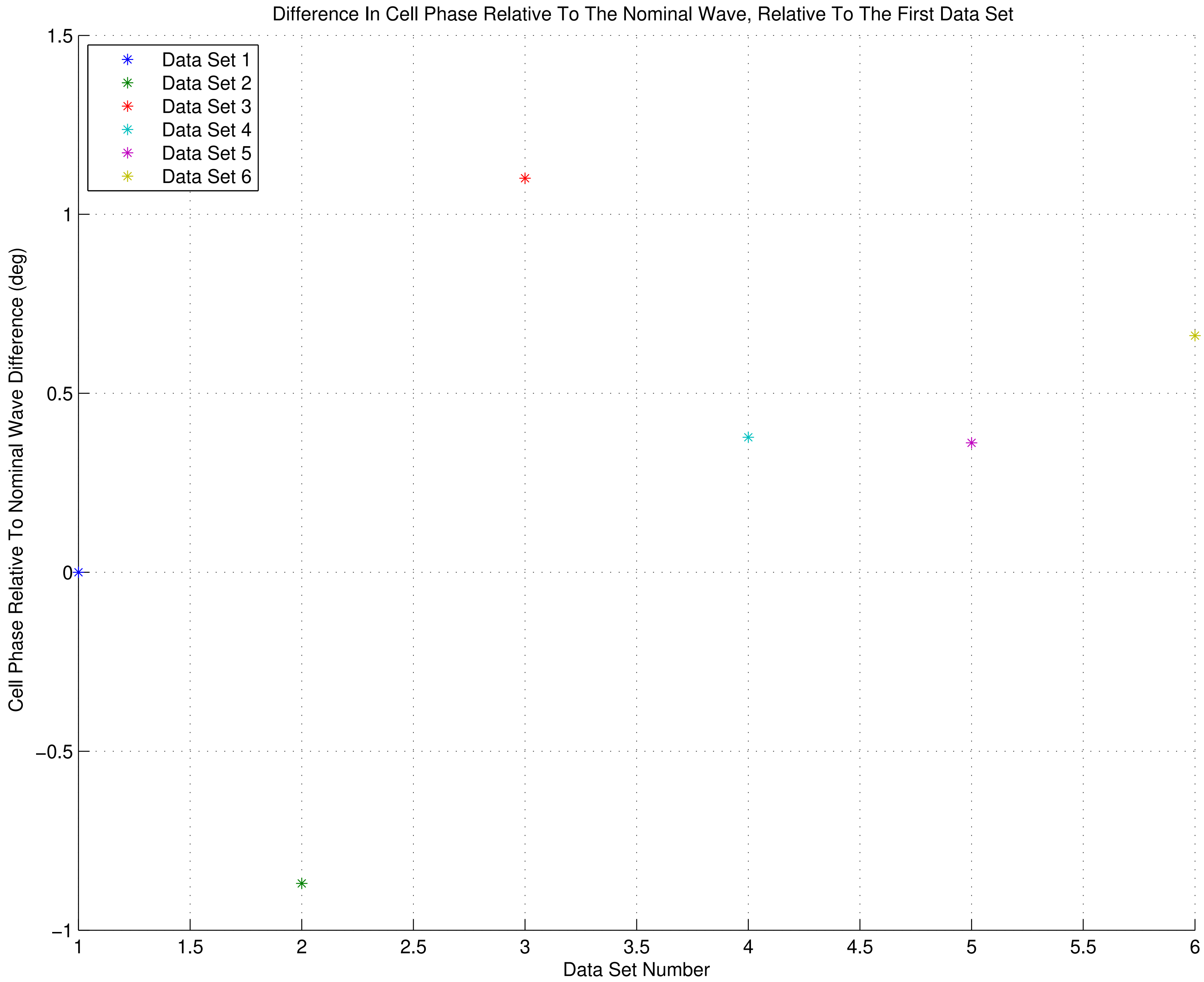


Phase Relative To The Phase Of The First Data Set
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6
Phase Difference (deg)
Peak Number
1.5
1
0.5
0
−0.5
−1
−1.5
−2
0
50
100
150
200
250



Phase Relative To The Nominal Wave, Relative To The Phase Of The First Data Set
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6
Phase Difference (deg)
Peak Number
2.5
2
1.5
1
0.5
0
−0.5
−1
0
50
100
150
200
250


Difference In K Effective Relative To The First Data Set
x 10^-5
K Effective Difference
Data Set Number
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6
0
1
2
3
4
5
6
7
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6


Difference In Cell Phase Relative To The Nominal Wave, Relative To The First Data Set
Cell Phase Relative To Nominal Wave Difference (deg)
Data Set Number
1.5
1
0.5
0
−0.5
−1
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
Data Set 1
Data Set 2
Data Set 3
Data Set 4
Data Set 5
Data Set 6