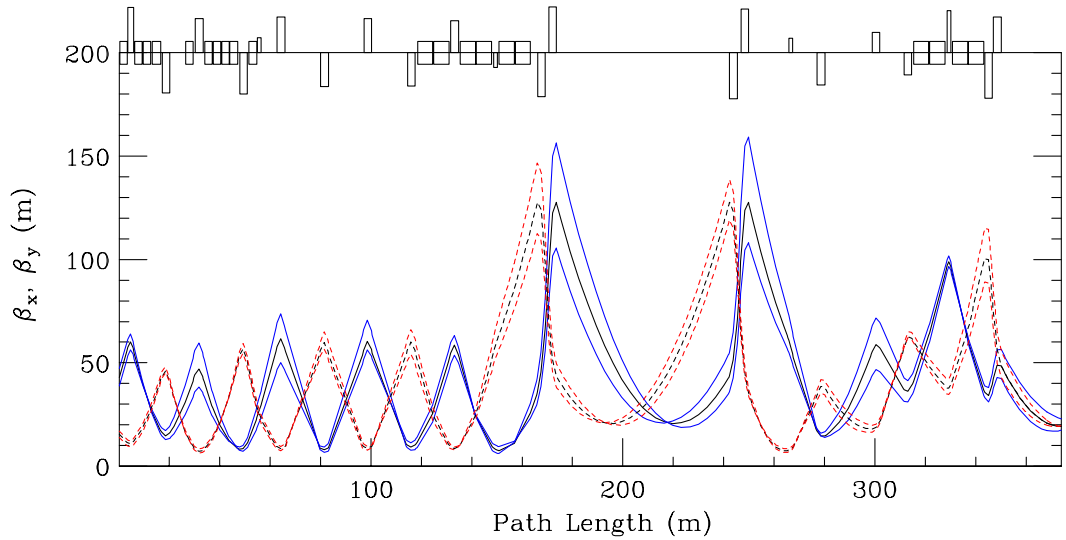
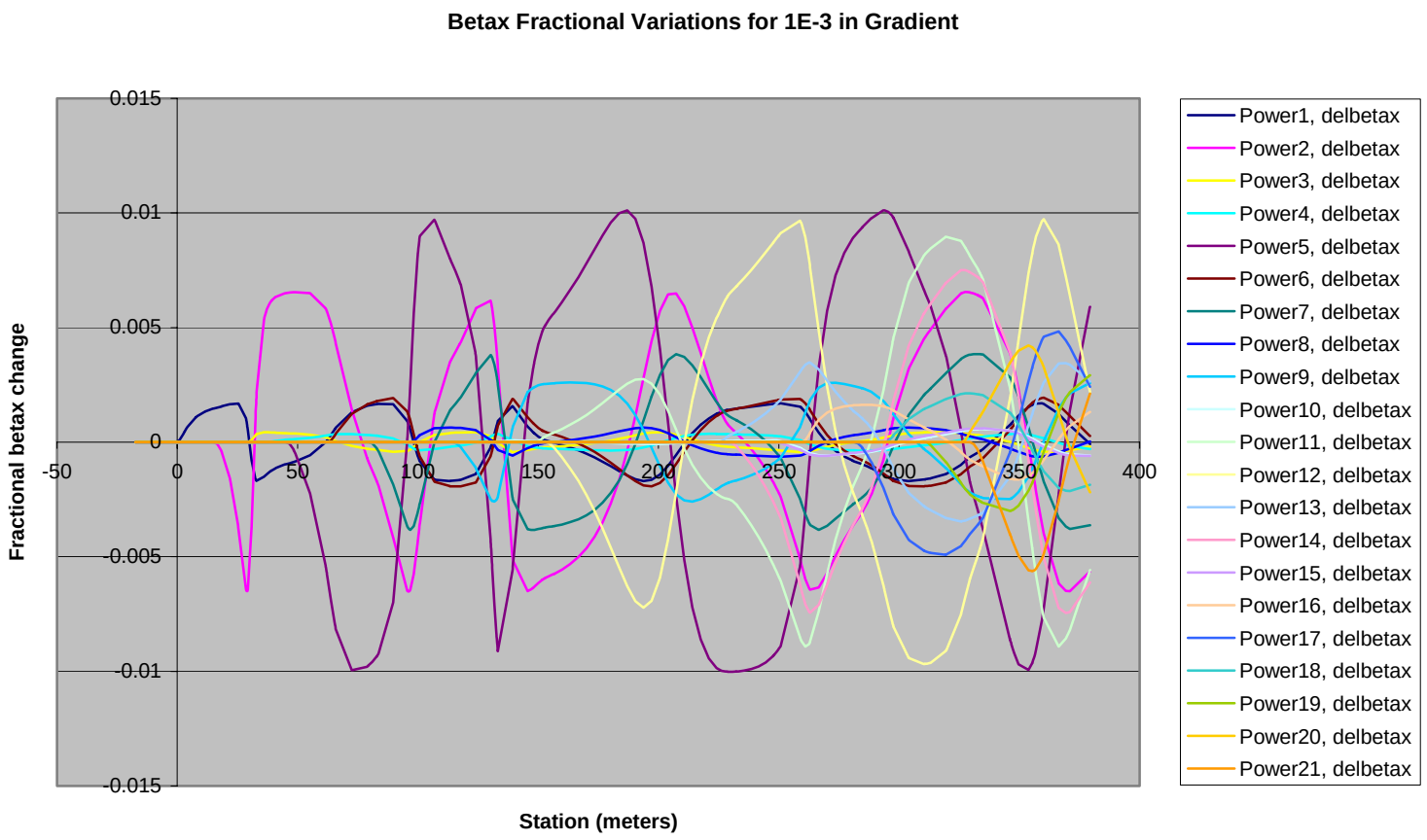
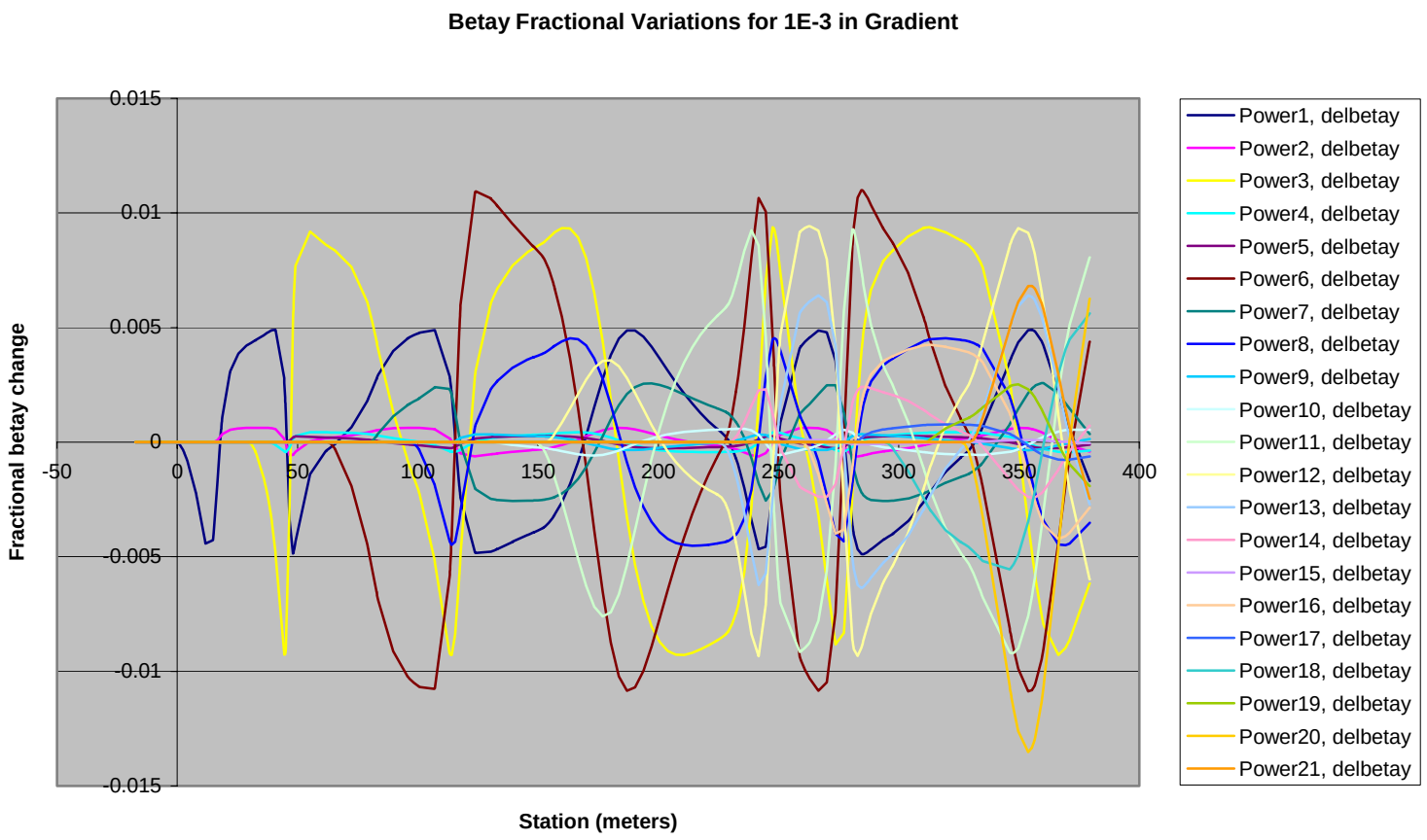
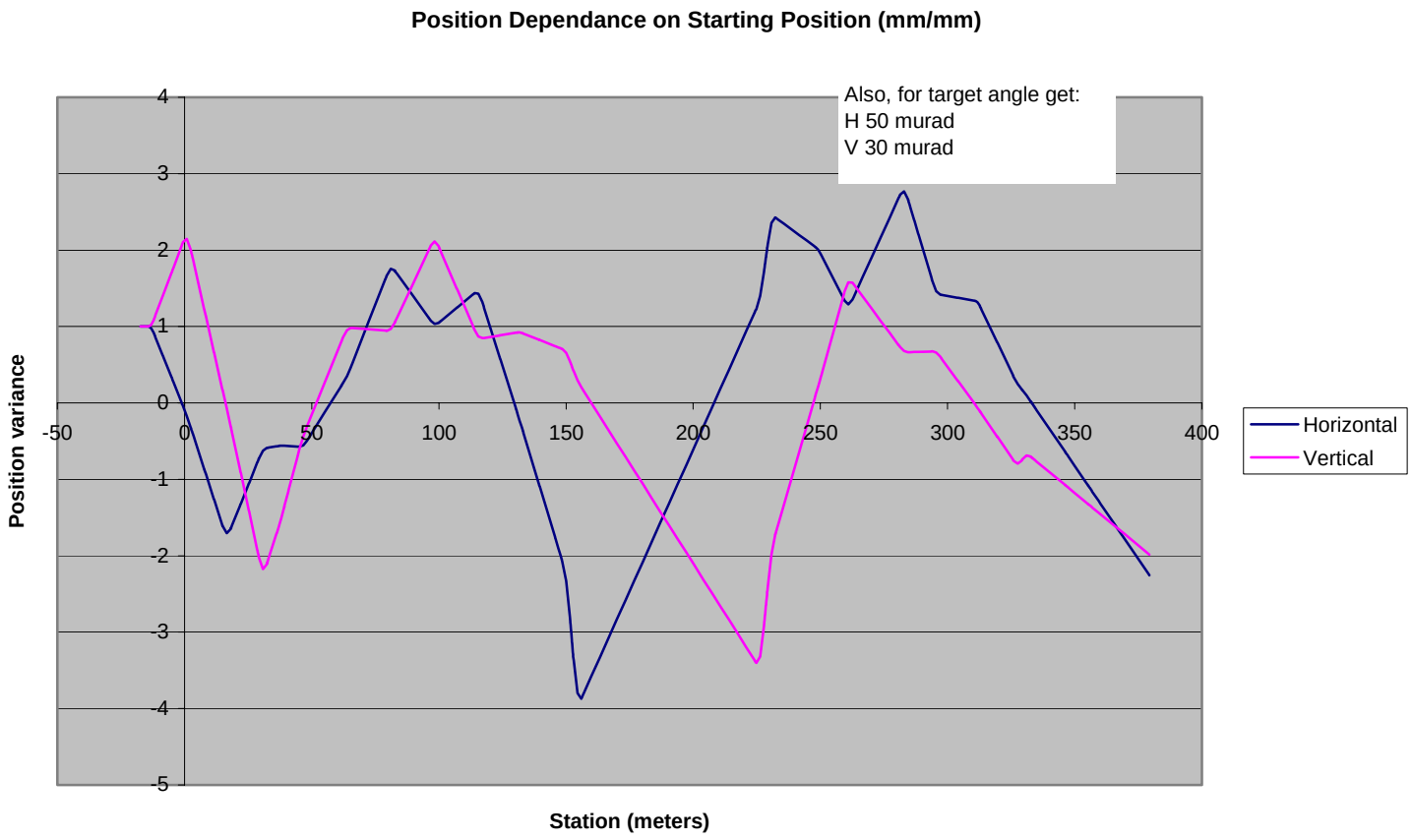
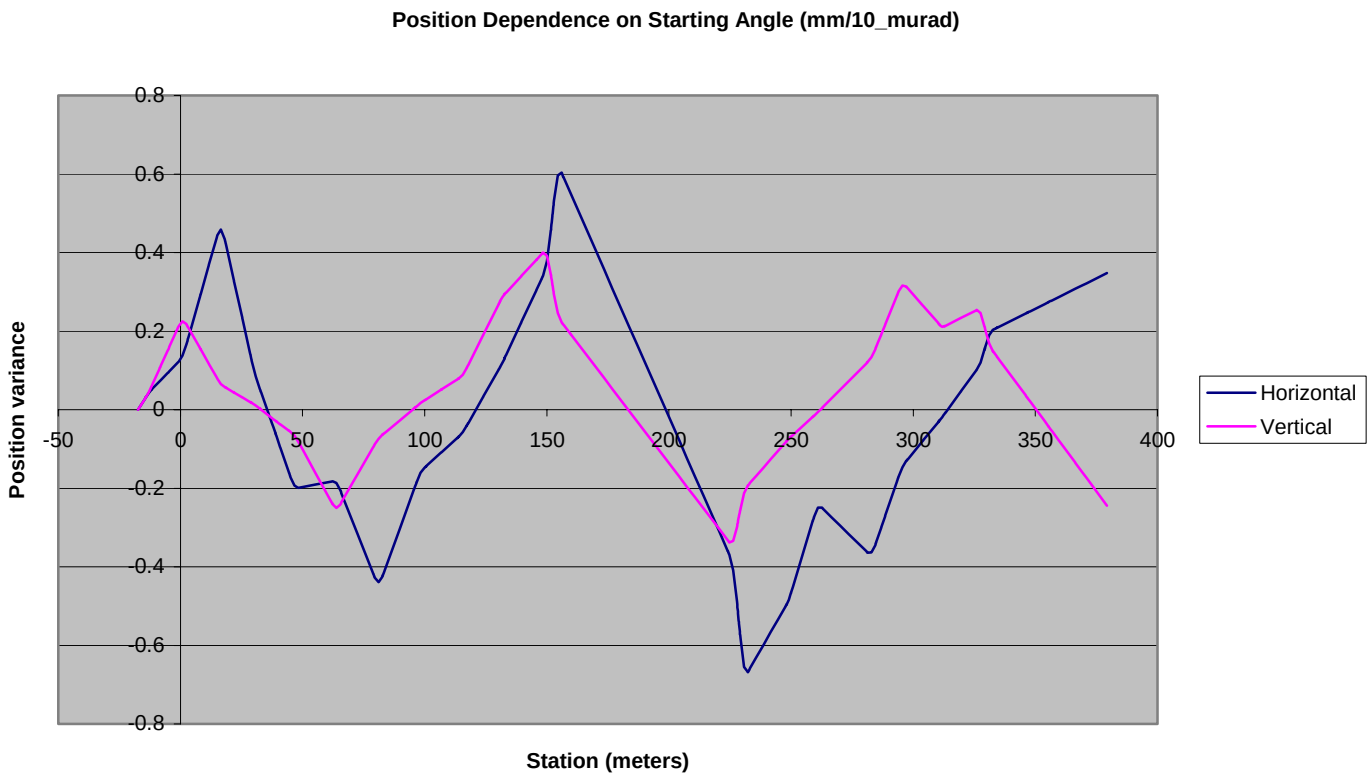


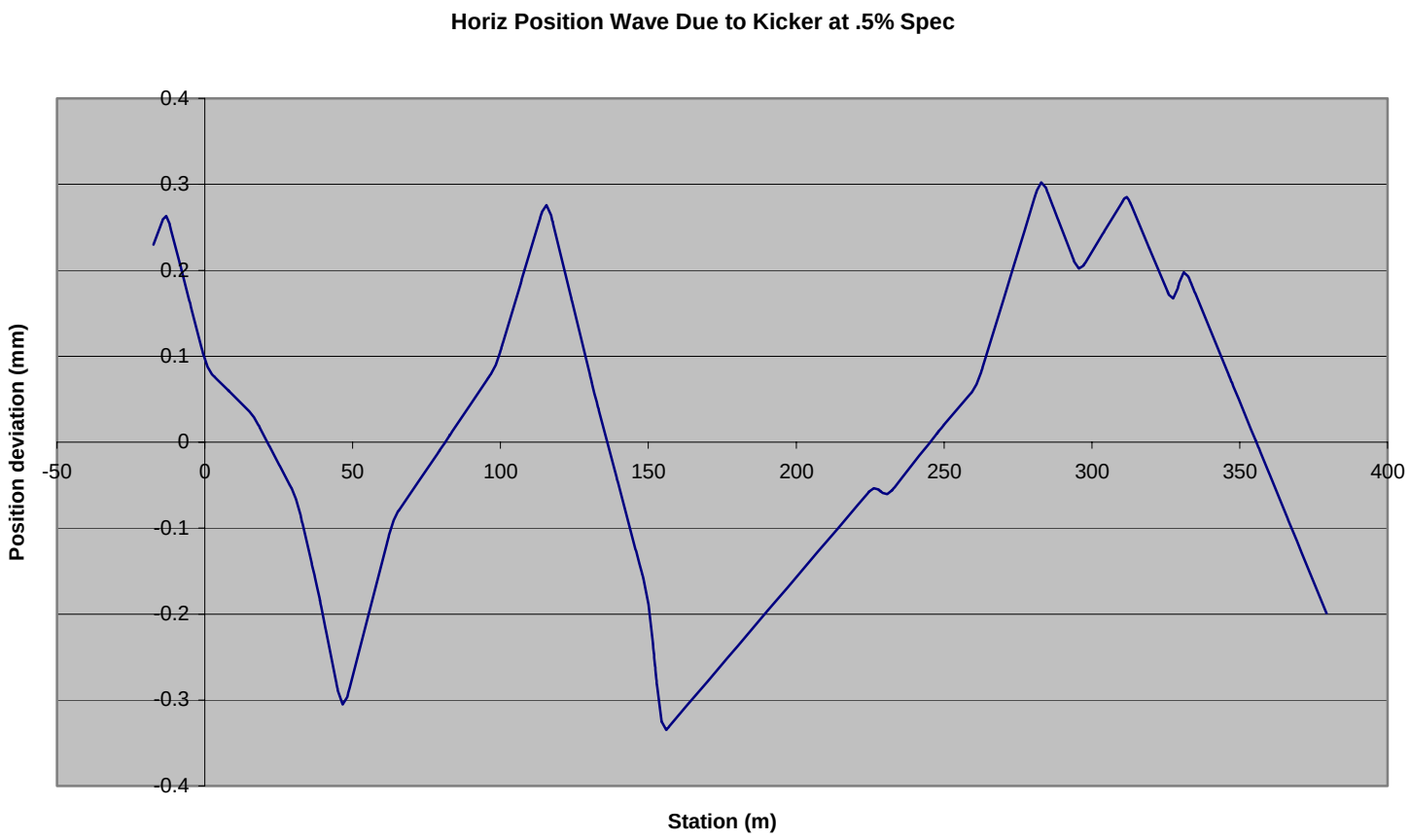
β-waves due to ±10% injection optic errors.

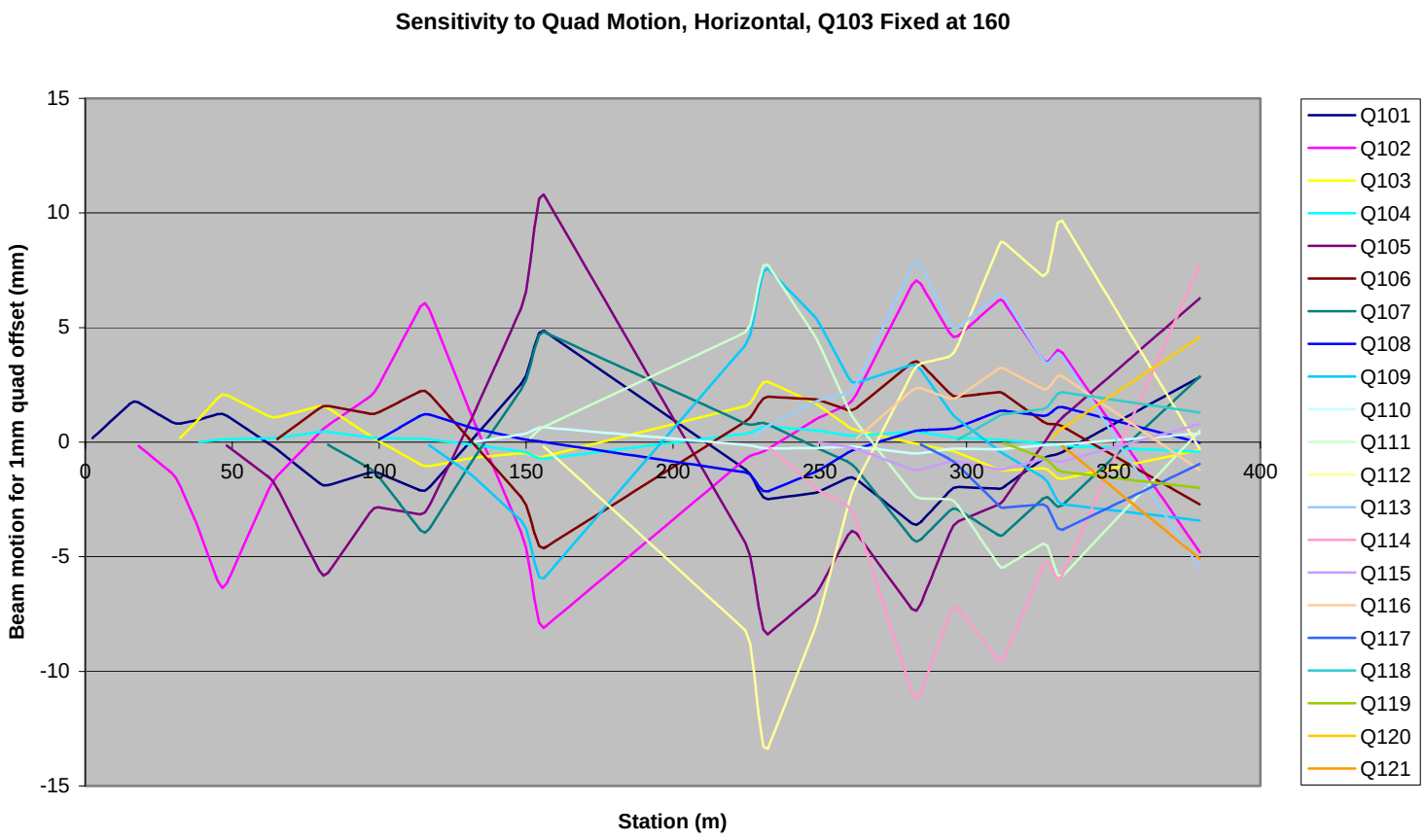

Betax Fractional Variations for 1E-3 in Gradient
Fractional betax change
Station (meters)
0.015
0.01
0.005
0
-0.005
-0.01
-0.015
-50
0
50
100
150
200
250
300
350
400
Power1, delbetax
Power2, delbetax
Power3, delbetax
Power4, delbetax
Power5, delbetax
Power6, delbetax
Power7, delbetax
Power8, delbetax
Power9, delbetax
Power10, delbetax
Power11, delbetax
Power12, delbetax
Power13, delbetax
Power14, delbetax
Power15, delbetax
Power16, delbetax
Power17, delbetax
Power18, delbetax
Power19, delbetax
Power20, delbetax
Power21, delbetax

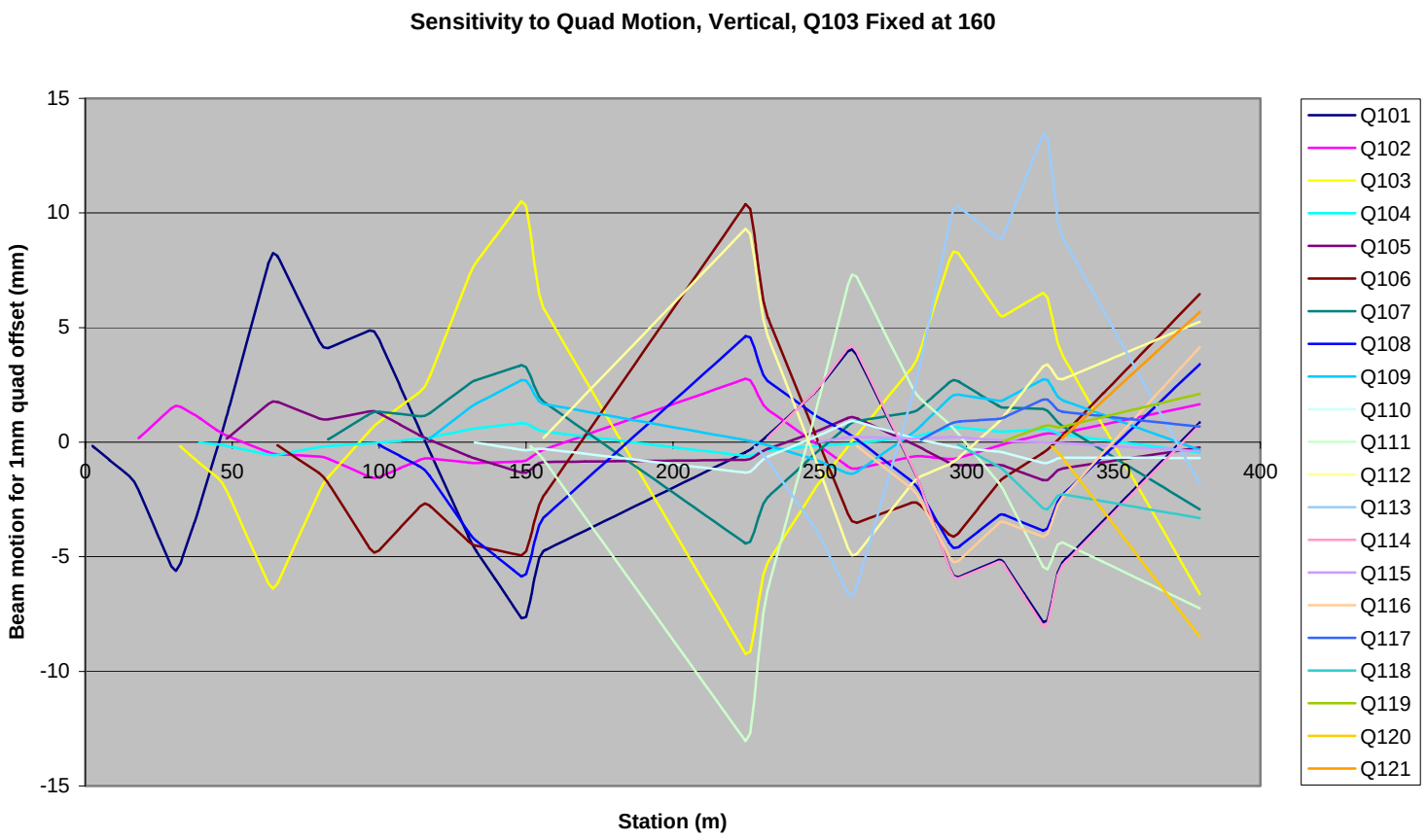

Betay Fractional Variations for 1E-3 in Gradient
Fractional betay change
Station (meters)
0.015
0.01
0.005
0
-0.005
-0.01
-0.015
-50
0
50
100
150
200
250
300
350
400
Power1, delbetay
Power2, delbetay
Power3, delbetay
Power4, delbetay
Power5, delbetay
Power6, delbetay
Power7, delbetay
Power8, delbetay
Power9, delbetay
Power10, delbetay
Power11, delbetay
Power12, delbetay
Power13, delbetay
Power14, delbetay
Power15, delbetay
Power16, delbetay
Power17, delbetay
Power18, delbetay
Power19, delbetay
Power20, delbetay
Power21, delbetay

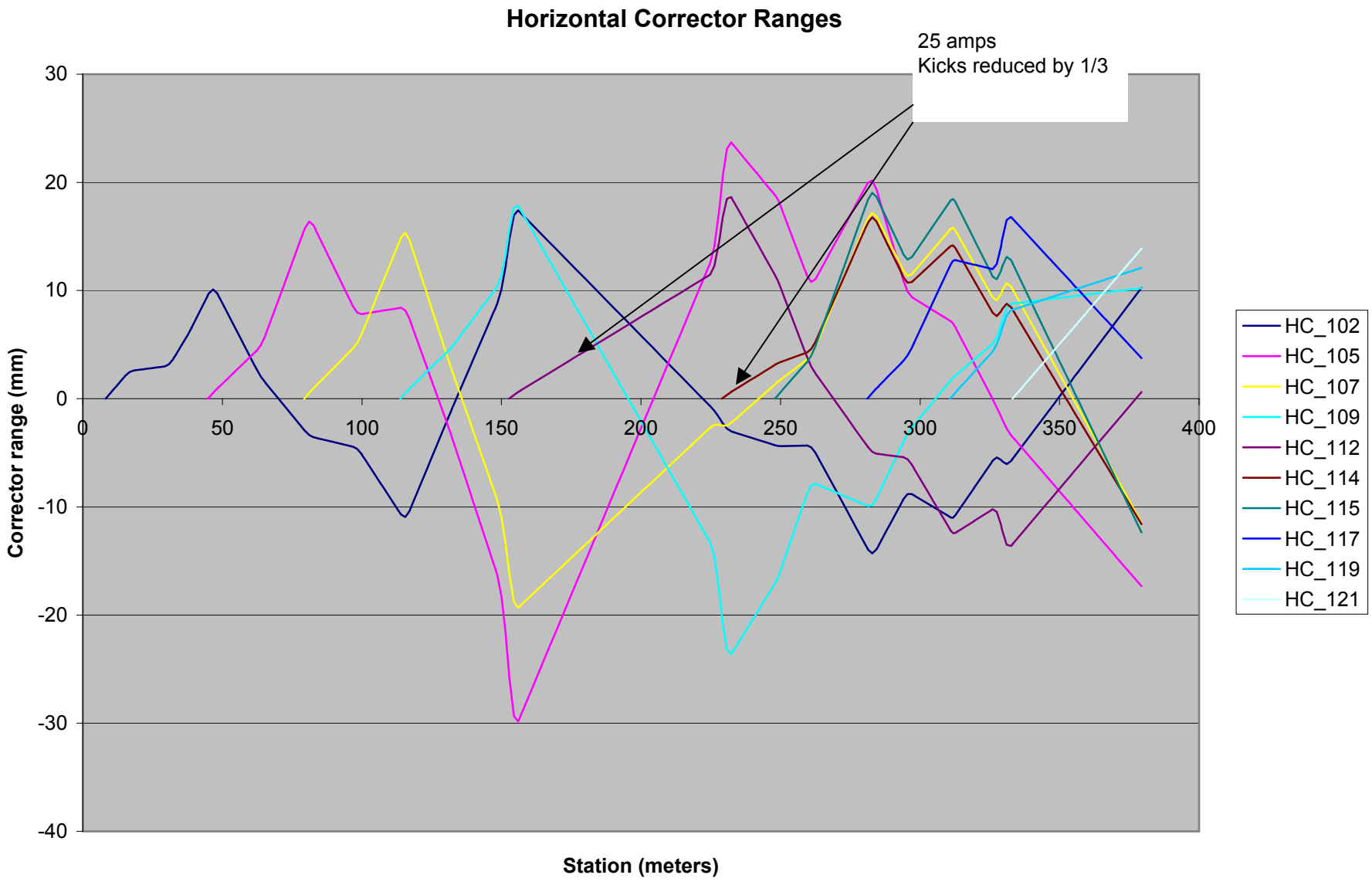

Position Dependance on Starting Position (mm/mm)
Also, for target angle get:
H 50 murad
V 30 murad
Position variance
Station (meters)
Horizontal
Vertical
4
3
2
1
0
-1
-2
-3
-4
-5
-50
0
50
100
150
200
250
300
350
400


Position Dependence on Starting Angle (mm/10_murad)
Position variance
Station (meters)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-50
0
50
100
150
200
250
300
350
400
Horizontal
Vertical


Horiz Position Wave Due to Kicker at .5% Spec
Position deviation (mm)
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-50
0
50
100
150
200
250
300
350
400
Station (m)

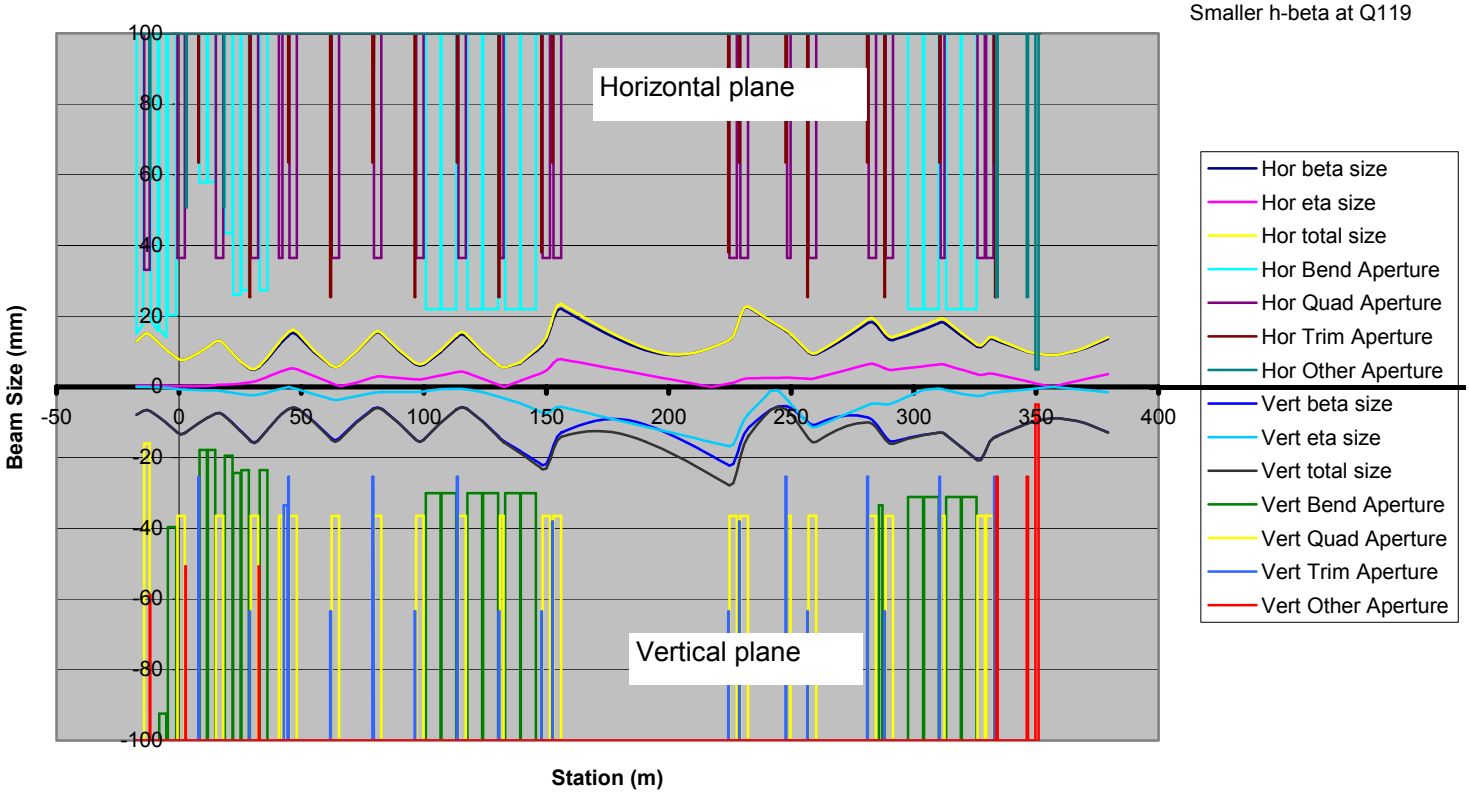

Sensitivity to Quad Motion, Horizontal, Q103 Fixed at 160
Beam motion for 1mm quad offset (mm)
Station (m)
15
10
5
0
-5
-10
-15
0
50
100
150
200
250
300
350
400
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q113
Q114
Q115
Q116
Q117
Q118
Q119
Q120
Q121

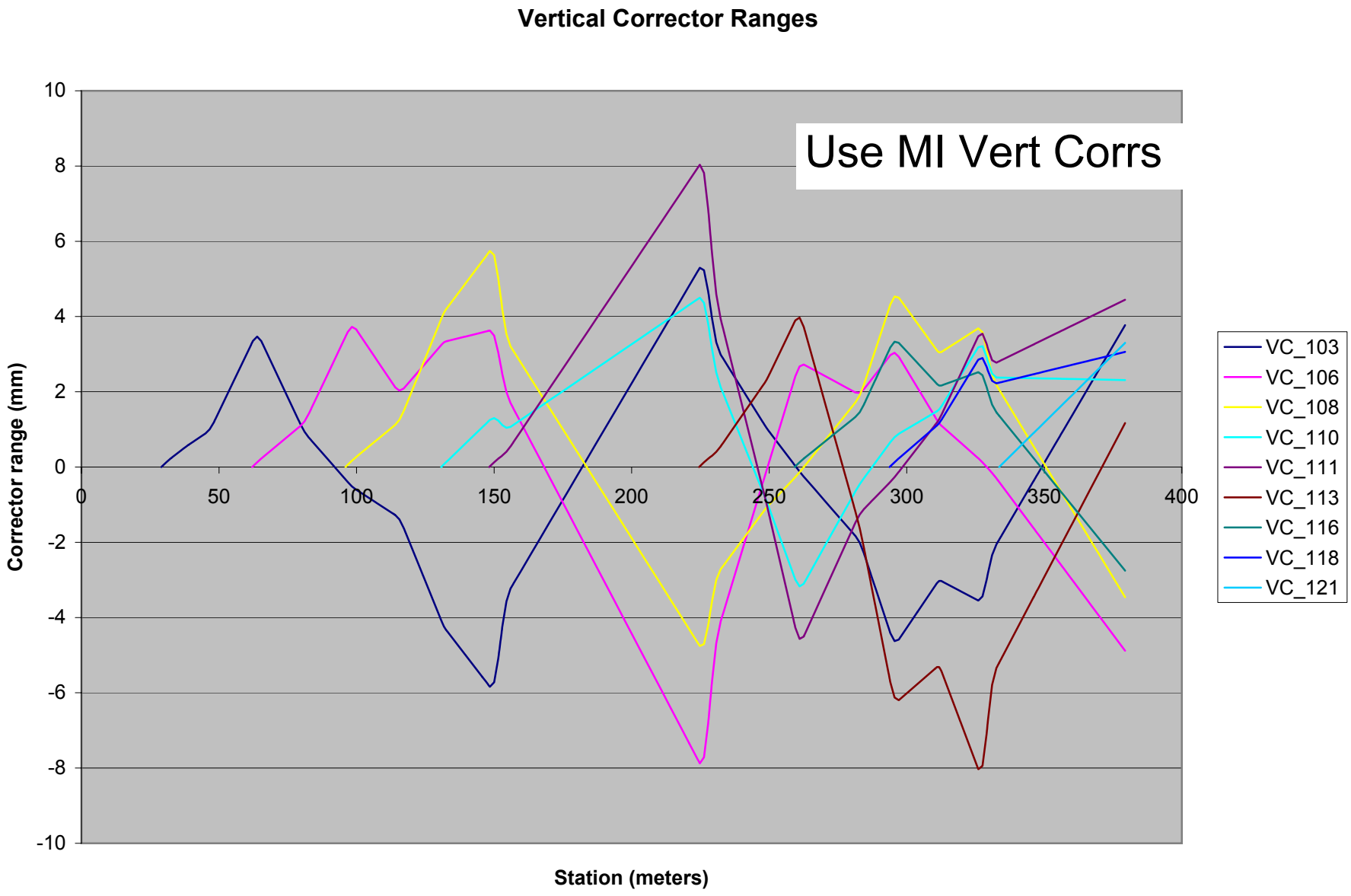

Sensitivity to Quad Motion, Vertical, Q103 Fixed at 160
Beam motion for 1mm quad offset (mm)
Station (m)
15
10
5
0
-5
-10
-15
0
50
100
150
200
250
300
350
400
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q113
Q114
Q115
Q116
Q117
Q118
Q119
Q120
Q121

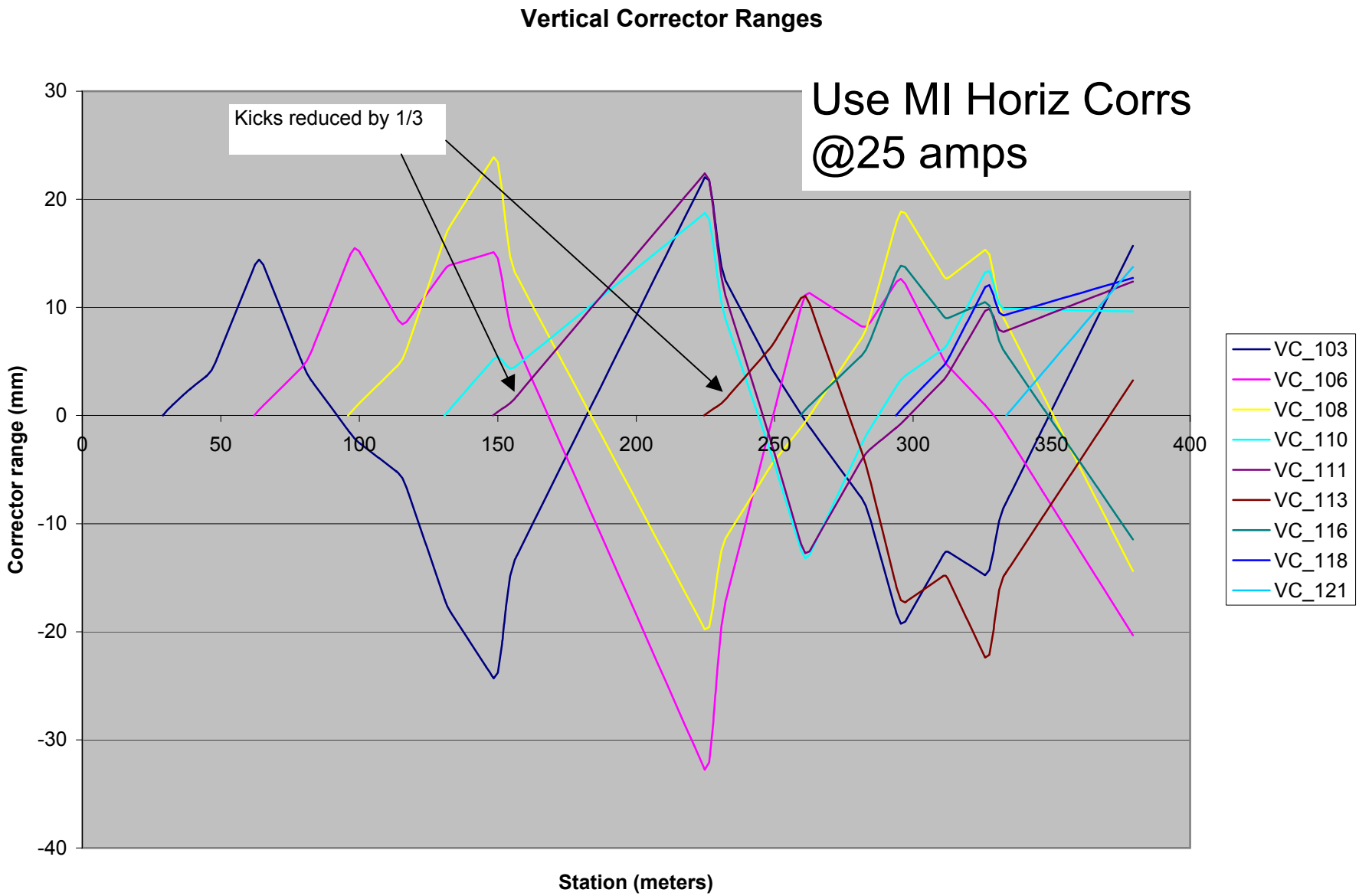

Horizontal Corrector Ranges
25 amps
Kicks reduced by 1/3
Corrector range (mm)
Station (meters)
30
20
10
0
-10
-20
-30
-40
0
50
100
150
200
250
300
350
400
HC_102
HC_105
HC_107
HC_109
HC_112
HC_114
HC_115
HC_117
HC_119
HC_121

Maximal Beam Sizes, 500pi & 3E-3, vs Clearances 09/27/02

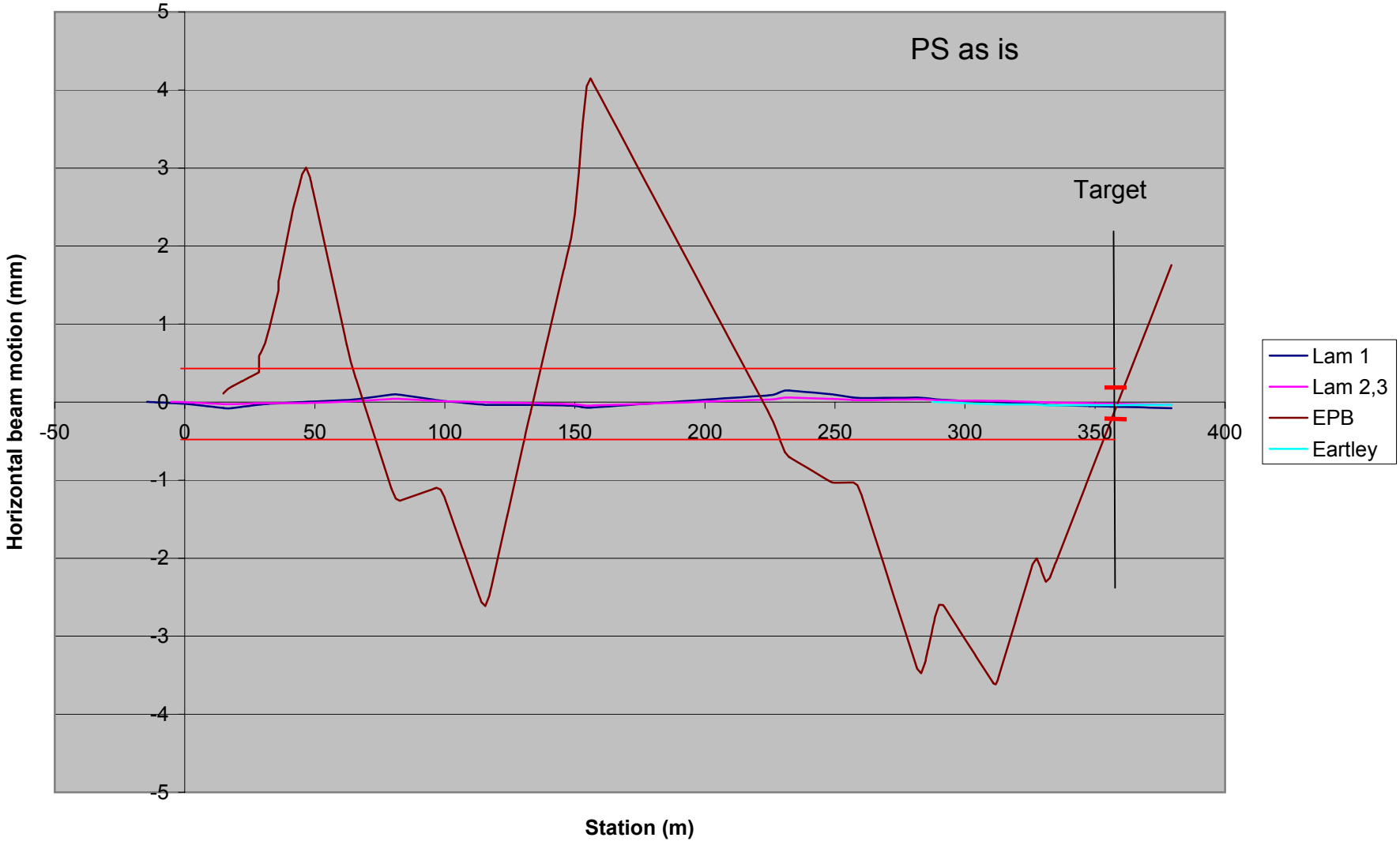
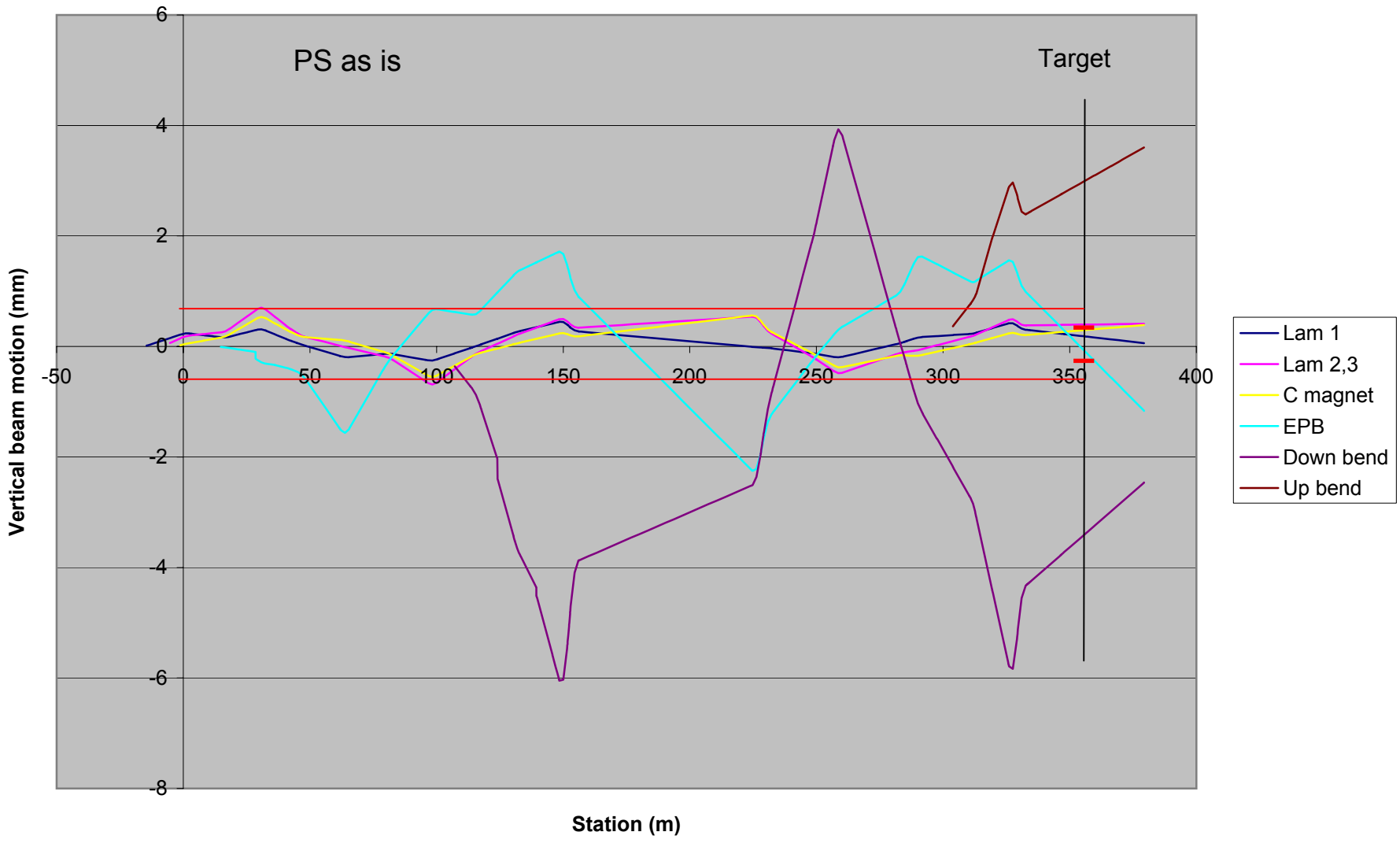
Smaller h-beta at Q119




Vertical Corrector Ranges
Use MI Vert Corrs
Corrector range (mm)
Station (meters)
10
8
6
4
2
0
-2
-4
-6
-8
-10
0
50
100
150
200
250
300
350
400
VC_103
VC_106
VC_108
VC_110
VC_111
VC_113
VC_116
VC_118
VC_121


Vertical Corrector Ranges
Use MI Horiz Corrs @25 amps
Kicks reduced by 1/3
Corrector range (mm)
Station (meters)
30
20
10
0
-10
-20
-30
-40
0
50
100
150
200
250
300
350
400
VC_103
VC_106
VC_108
VC_110
VC_111
VC_113
VC_116
VC_118
VC_121

Horizontal Beam Sensitivity to Nominal PS Drifts September 30, 2002



September 30, 2002