

## “FOPT” data interpreted by 100 keV 4D model (10/15/03)

- Used 2 correctors in each plane at beginning of Gun 3 line to form even phase coverage
- Autoscale in FOPT did not converge. However, a parallel logging process by Tiefenback was run with usable data taken during amplitude search.
- Each group of orbit data (X & Y) is fitted to 4D Gold model in 100 keV line.
- Model does not explain 4D orbit very well, especially when 1<sup>st</sup> BPM is included (in the coupled region)
- No clear indication of amplitude dependence (fit is uniformly bad)

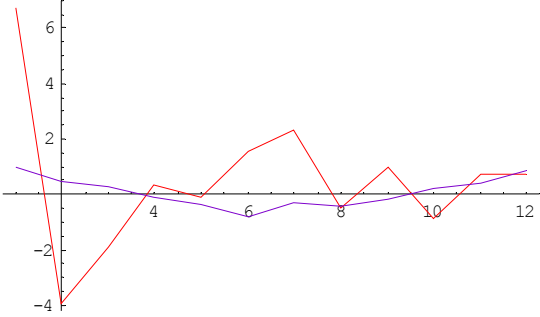
## Need to repeat measurement

- Large **test** sample size in FOPT
- Large aperture
- Monitor beam loss

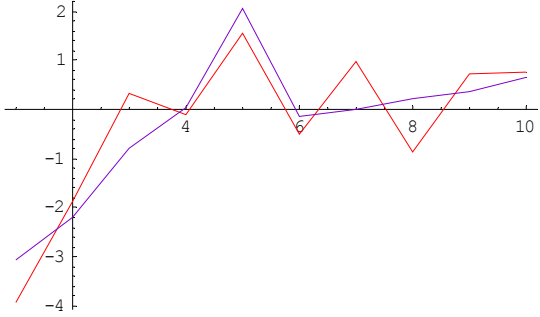
2

number of samples: 26  
corrector changes:  $\{-1.718, 0., 7.80216, 0\}$

fitted coord: -0.827467 0.003870 -0.193647 0.000663



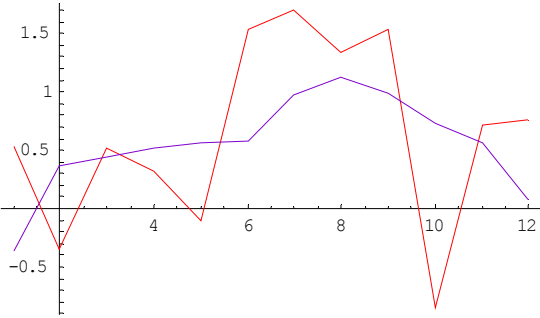
fitted coord: 1.643246 -0.003734 2.868369 -0.009359



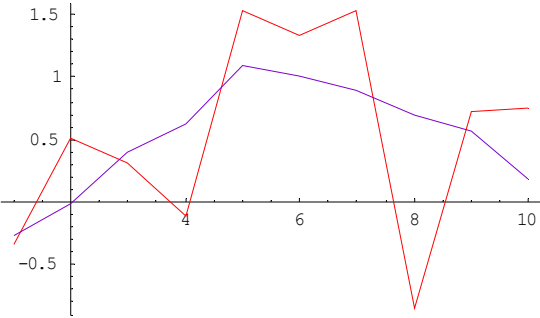
3

number of samples: 25  
corrector changes:  $\{-4.16006, 0., 15.2058, 0\}$

fitted coord: 0.731365 -0.001769 -0.748849 0.000123



fitted coord: 1.018434 -0.002620 -0.090214 -0.002059

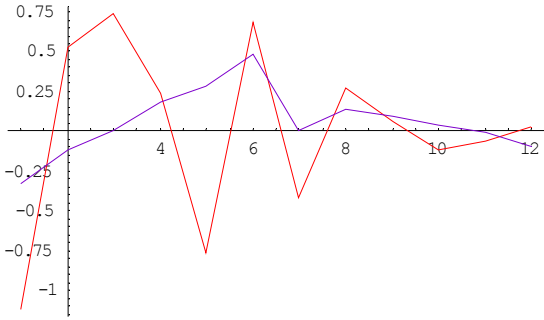


4

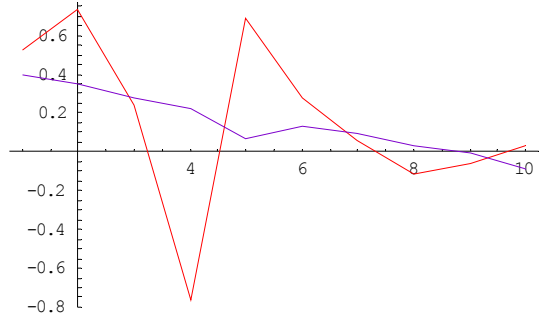
number of samples: 25

corrector changes: {0.,0.,-1.19217,0}

fitted coord: 0.240523 -0.001144 0.091934 -0.000917



fitted coord: -0.081071 -0.000161 -0.368507 0.000595

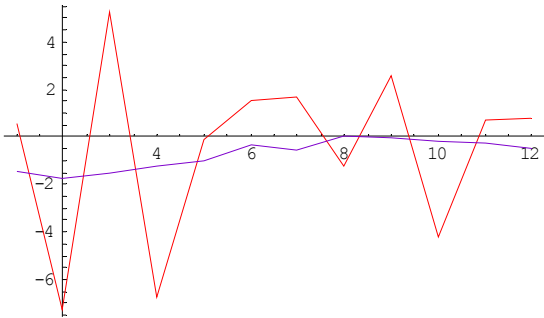


5

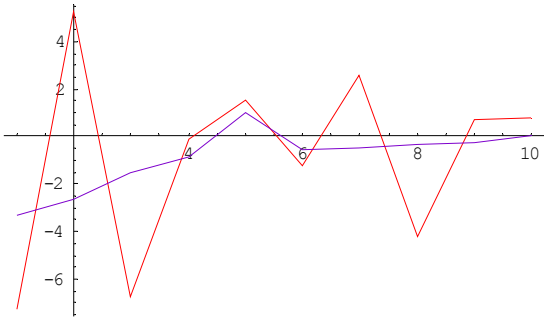
number of samples: 26

corrector changes: {-2.20764,0.,13.1904,0}

fitted coord: 0.997484 -0.001957 1.222817 -0.000786



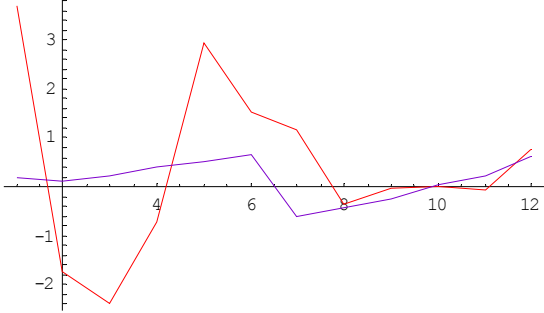
fitted coord: 1.449170 -0.003215 3.010178 -0.006743



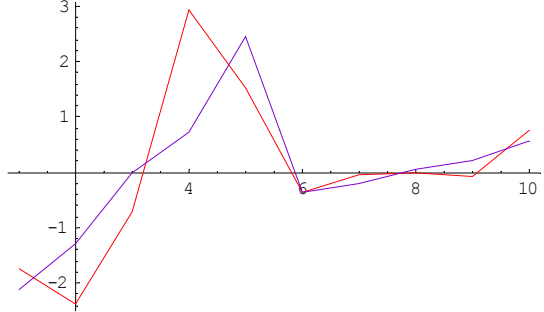
6

number of samples: 26  
corrector changes:  $\{-0.75823, 0., 3.8587, 0\}$

fitted coord: -0.419487 0.001001 0.310406 -0.002557



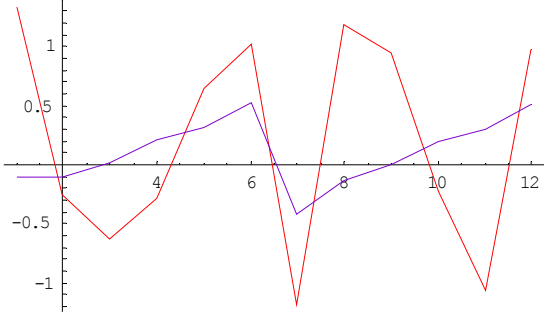
fitted coord: 1.029589 -0.003438 2.298122 -0.009080



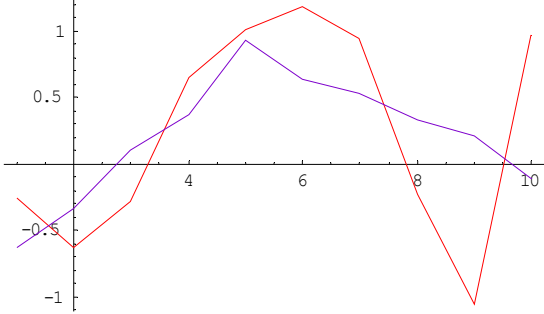
7

number of samples: 26  
corrector changes:  $\{0., 0.50735, 0, -2.30411\}$

fitted coord: -0.067236 0.000447 0.301082 -0.002159



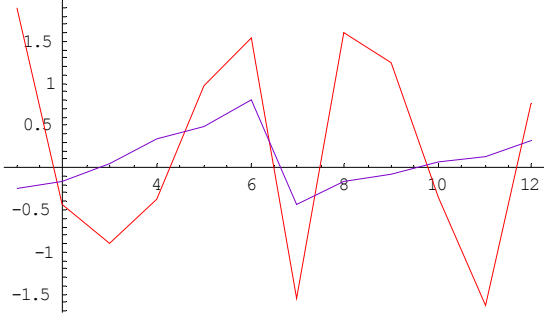
fitted coord: 0.956082 -0.002838 0.305327 -0.002062



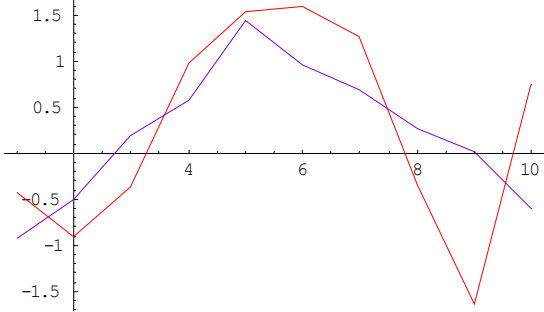
8

number of samples: 26  
corrector changes: {0.,0.81899,0,-2.99357}

fitted coord: -0.005509 -0.000379 0.378955 -0.002568



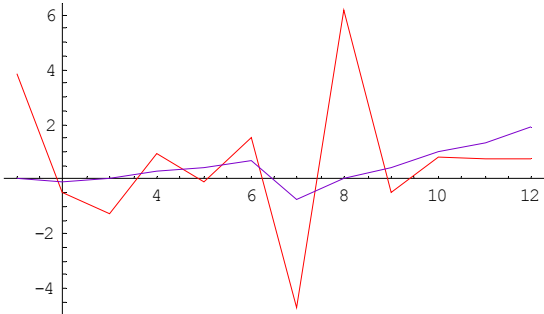
fitted coord: 1.506284 -0.005230 0.411428 -0.002514



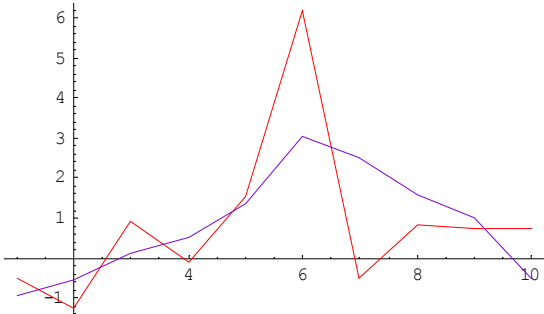
9

number of samples: 26  
corrector changes: {0.,0.,0,-9.94547}

fitted coord: -0.170508 0.003087 0.397114 -0.004451



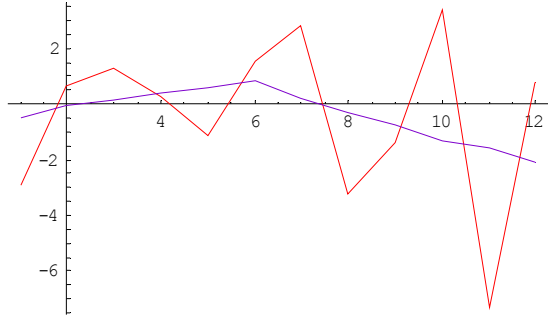
fitted coord: 3.075601 -0.007448 -0.626367 -0.000661



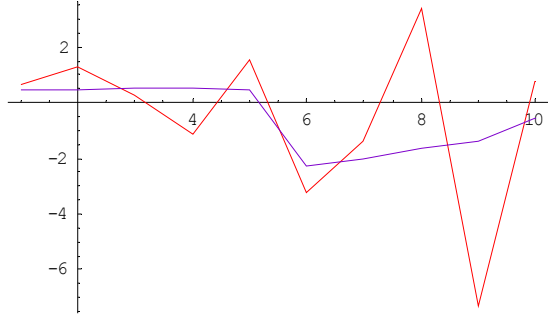
10

number of samples: 26  
corrector changes: {0., -1.11302, 0, 6.6502}

fitted coord: 0.236174 -0.005378 0.127111 0.000923



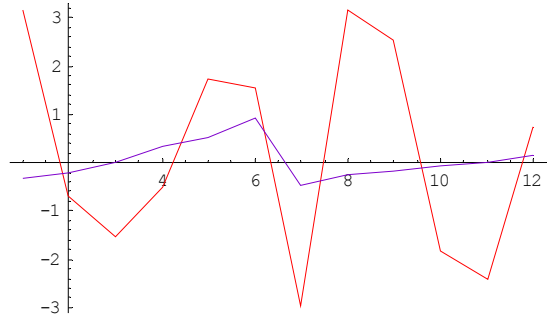
fitted coord: -1.829127 0.001329 0.813732 -0.001607



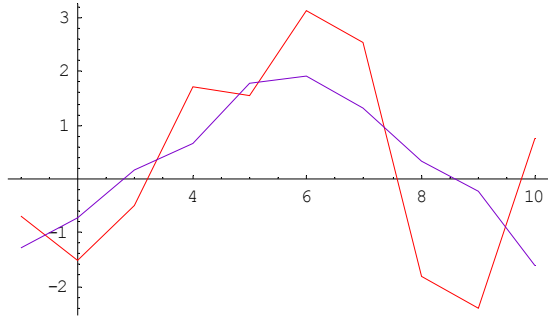
11

number of samples: 27  
corrector changes: {0., 1.14856, 0, -5.84507}

fitted coord: 0.010483 -0.000840 0.451825 -0.002632



fitted coord: 2.649724 -0.009350 0.136630 -0.001288

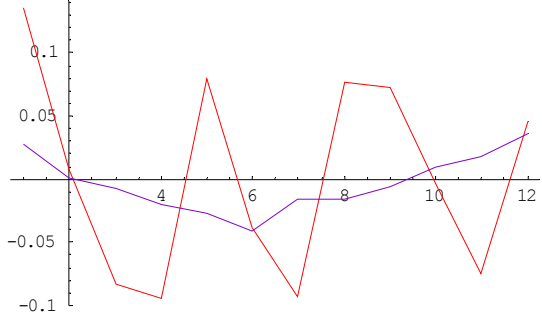


12

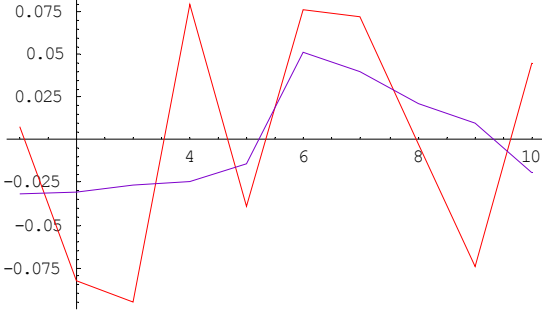
number of samples: 38

corrector changes: {0.,0.,0,0}

fitted coord: -0.023948 0.000156 0.003724 0.000024

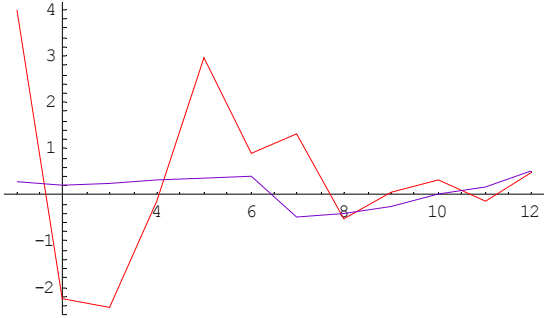


fitted coord: 0.058238 -0.000109 -0.006020 0.000065

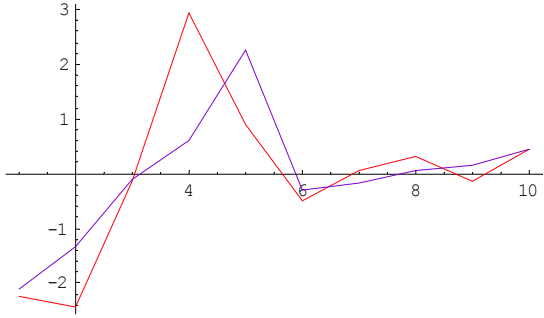


number of samples: 5  
corrector changes:  $\{-1.03498, 0., 6.1839, 0\}$

fitted coord: -0.455417 0.001214 0.183949 -0.001744

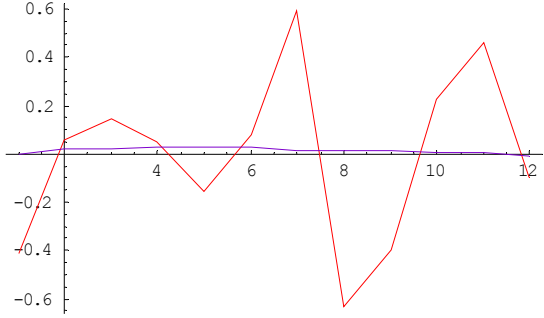


fitted coord: 1.097309 -0.003551 2.228511 -0.008446

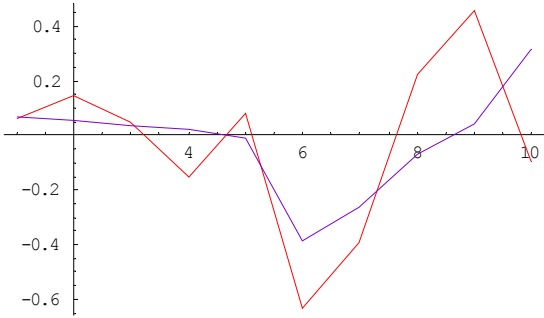


number of samples: 5  
corrector changes:  $\{0., 0., 0, 1.22102\}$

fitted coord: 0.005325 -0.000055 -0.016298 -0.000017



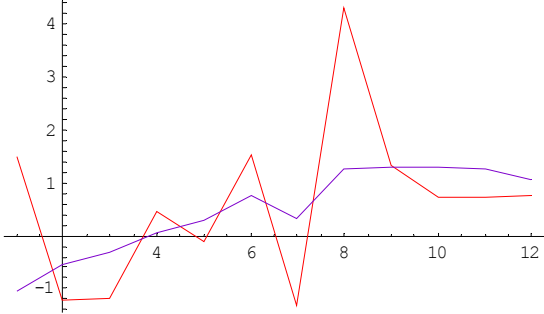
fitted coord: -0.387610 0.001228 0.175492 -0.000704



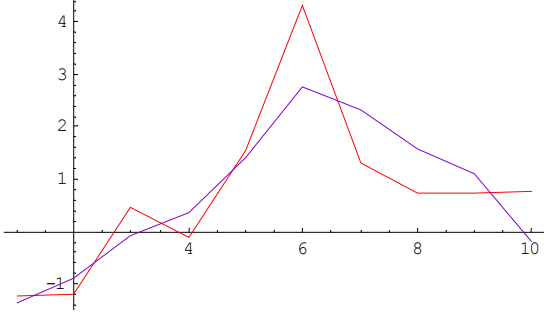
number of samples: 6

corrector changes: {0., 2.02942, 0, -9.21645}

fitted coord: 1.158895 -0.000777 0.024744 -0.002719



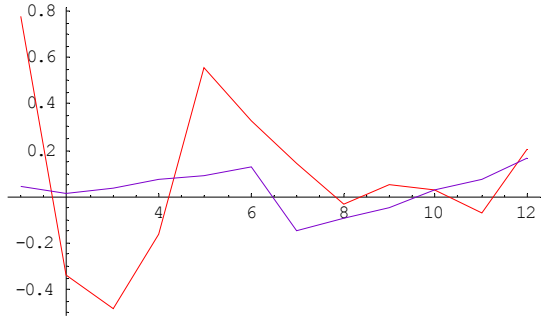
fitted coord: 3.053158 -0.006875 -0.122490 -0.002019



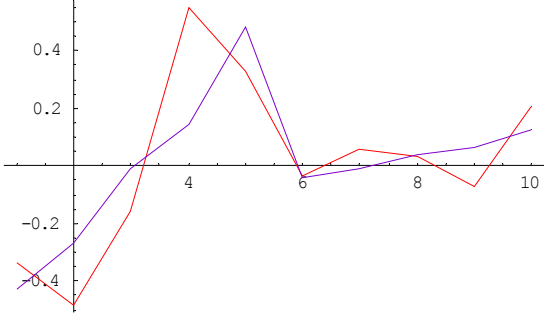
number of samples: 8

corrector changes: {0., 0.02522, 0, -0.114525}

fitted coord: -0.093904 0.000308 0.077399 -0.000588



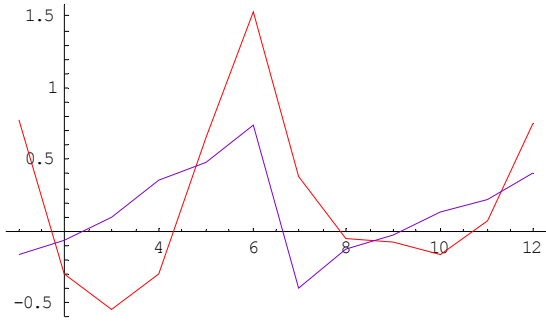
fitted coord: 0.232742 -0.000701 0.449921 -0.001804



number of samples: 5

corrector changes: {0.,0.,2.38434,0}

fitted coord: -0.046614 -0.000072 0.288372 -0.002408



fitted coord: 0.257470 -0.000974 0.977217 -0.004689

