

Second order chromaticity correction at Blue store

1. Goal:

Plan Change from 3:30pm Meeting: we cancel the tune scan task and replace it with non-linear chromaticity measurement in Blue. The goal of this study is to cross check whether Yun's non-linear chromaticity calculation from model has reasonable agreement with the measurement

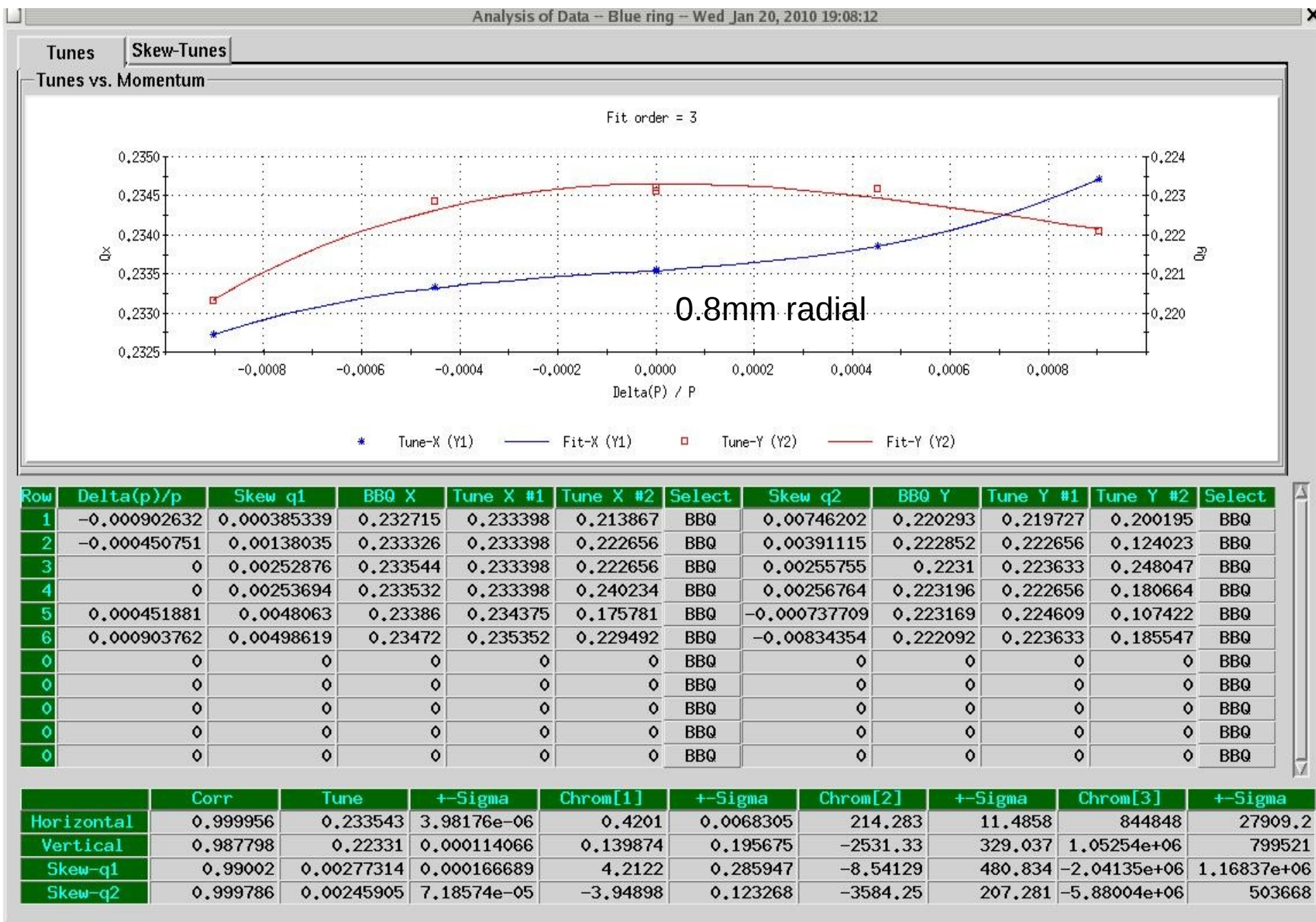
2. Time:

Allocated 2 hrs, but delayed by injection problem, actually just had 1 hour

3. Crew:

gjm, vhs, and onlookers: yun, dejan, Al

One example



Set Peak #1

Set BBQ

Close

Summary of correction and measurement

Correction	radial shifted	beam decay	Qx' / Q'y	Q''x / Q''y	Q'''x / Q'''y
No	0.4mm	110%/hr	1.4/ 0.24	112/ -2069	324714/ 383529
-0.02	0.4mm	120%/hr	0.7/0.21	309/-1773	2.78e6 / 1.16e6
-0.04	0.6mm	600%/hr	0.7/0.32	295/-1280	1.2e6 / 0.3e6
No	0.6mm	720%/hr	1.3/0.2	464/-1131	0.8e6 / 0.3e6
0.06	0.6mm	900%/hr	2.2/0.12	132/-1452	0.5e6 / 0.4e6
-0.06	0.6mm	380%/hr	.4/0.1	77/-1539	0.8e6 / 1.2e6
-0.08	0.8mm	1200%/hr	0.3/0.3	47/ -2587	0.5e6 / 1.0e6
-0.08	1.0mm		beam aborted		

Projected correction for Q''x from model: -0.06 for SFPI, 0.06 for SFMI

Summary:

1. Only worked on Q_x'' of Blue , need put more effects on Q_y'' instead .
2. Predication for Blue Q_x'' correction is in right sign at least.
Some improvement in momentum aperture

Discussion:

1. Difficulty in Q'' measurement with small radial shift.
2. Actually Blue Q_y'' is problem, different from model predication.
3. Many ways to dial in or scan second order chromaticity correction
if time is given.

Request:

3 hours to work on Au 103 second order chrom correction in APEX