

Software Task Meeting

# EXT Orbit Correction/Stability

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8 april 2009

# Status of the task

- Algorithms working (A. Scarfe, Y. Renier, G. White)
- Results presented in February.
- One fully implemented in FS.
- Calibration of striplines missing to use it.

# Performance of the algorithms

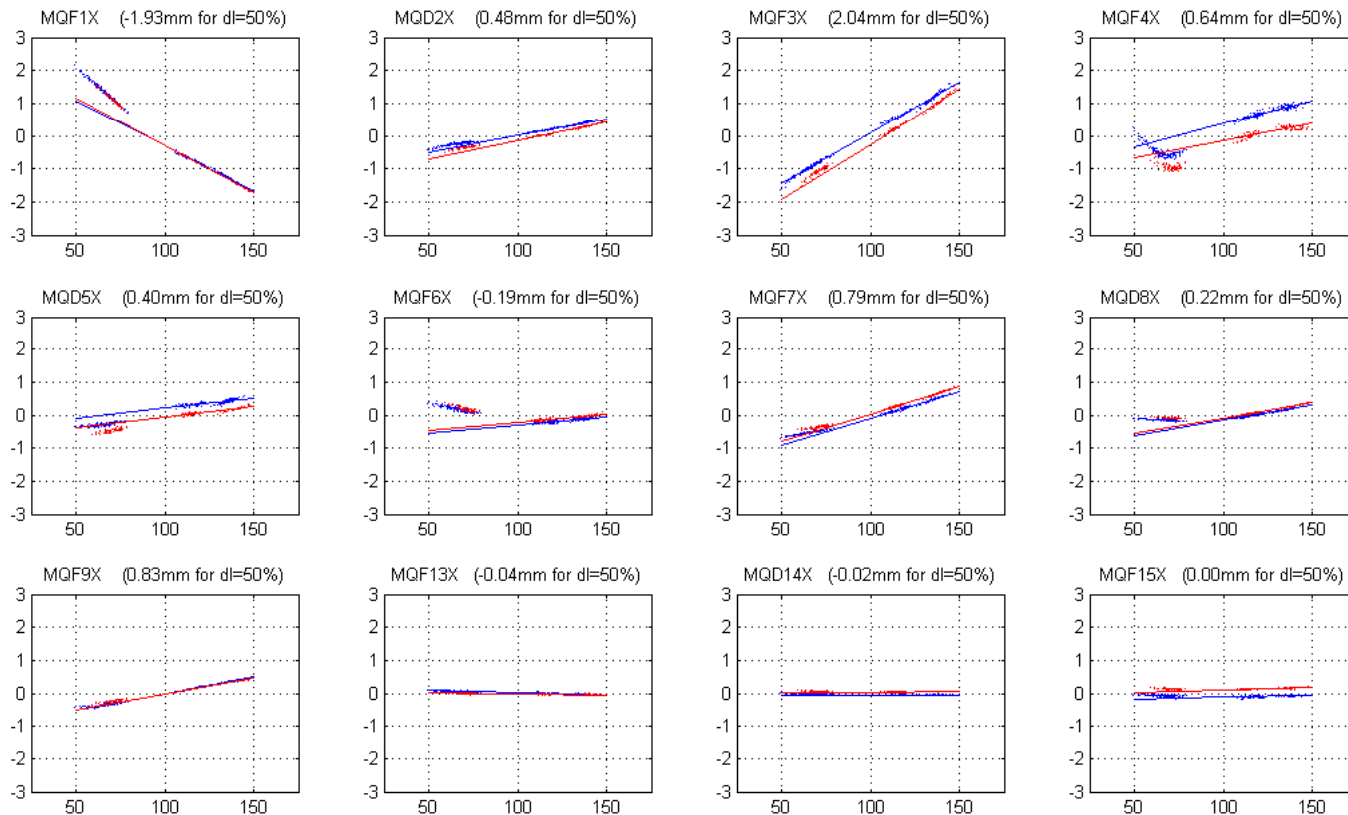
quantity	results				
	mine	Antony's	Glen's	Javier's	Kubo-san's
rms X (EXT) [mm]	$0.2 \pm 0.1$	$3 \pm 2$			
rms Y (EXT) [mm]	$0.3 \pm 0.1$	$.5 \pm .5$			
rms X (EXT+FF) [mm]	$.5 \pm .5$	$10 \pm 10$			
rms Y (EXT+FF) [mm]	$.7 \pm .6$	$2 \pm 2$			
BPM measurements	10	$60 \pm 10$			

# Striplines problems

Striplines are not well calibrated :

- Large intensity dependence
- Magnetic center not known (BBA needed)
- Scale factor not precise (1mm read isn't)

# Intensity dependence



In blue : before kick  
In red : after +1A in ZX1X  
1 0 0 % = 4 A

# Intensity dependence

- Almost linear at high intensity.
- Linear correction + cuts will be used.
- Low intensity important (Shintake mode).
- Once corrected, some 10s um resolution.

# Magnetic center determination

- BBA planed this week, but mainly on cavity BPM.
- Plan tomorrow to make Okugi style BBA to determine center of all striplines.

# Scale factor

Data taken yesterday by Mark, precise results soon.

Tentative determination with previous data :

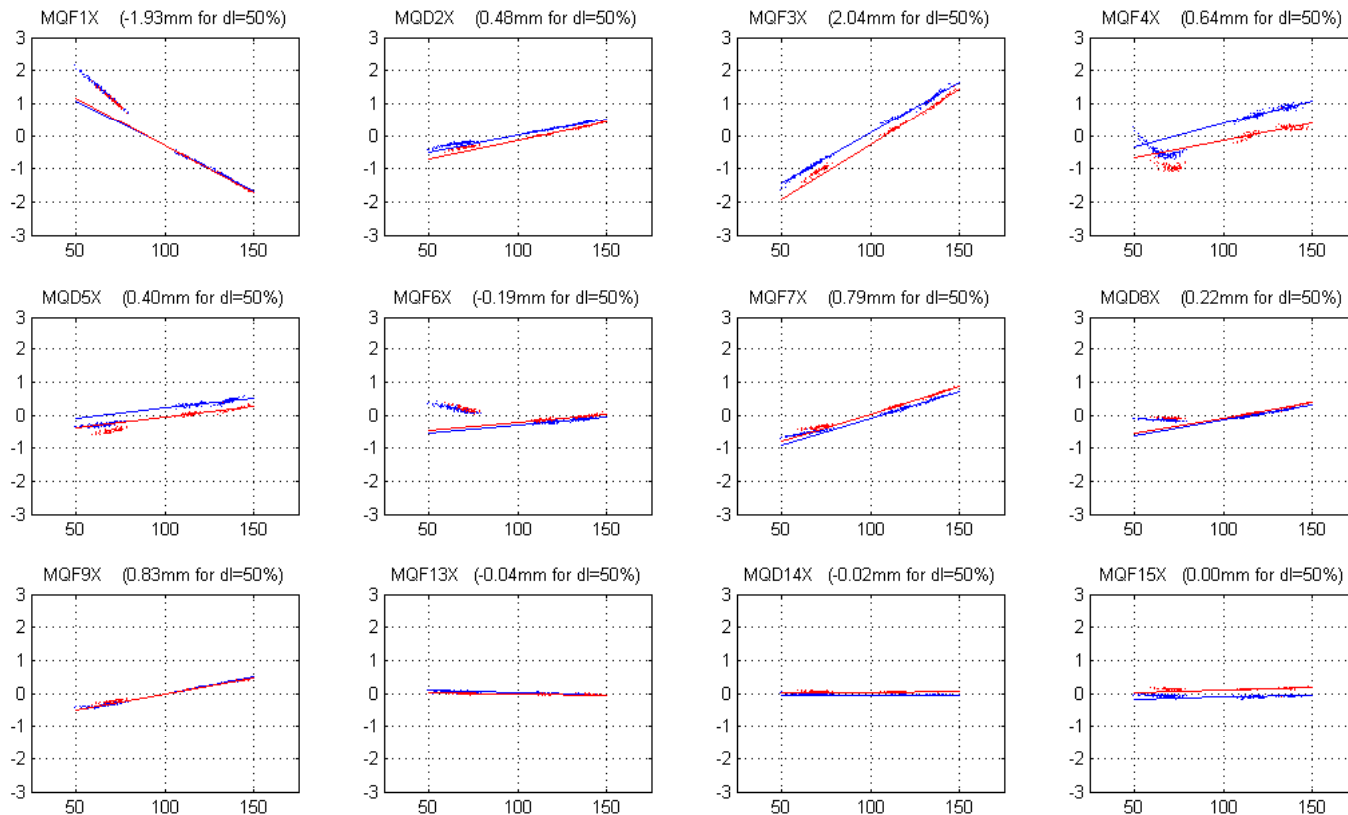
BPM	R12 ZX1X -> BPM	delta X (mm)	reconstructed angle (mrad)	factor
MQD2X	1,21	-0,149	-0,123	0,821
MQF3X	2,9	-0,351	-0,121	0,807
MQF4X	2,93	-0,525	-0,179	1,195
MQD5X	1,46	-0,287	-0,197	1,311
MQF6X	0,45	0,08	0,178	-1,185
MQF7X	-1,33	0,118	-0,089	0,591
MQD8X	-0,63	0,066	-0,105	0,698
MQF9X	-0,71	0,007	-0,010	0,066
MQF13X	0,18	-0,035	-0,194	1,296
MQD14X	-0,6	0,092	0,153	-1,022
MQF15X	-1,46	0,216	-0,148	0,986



# Conclusion

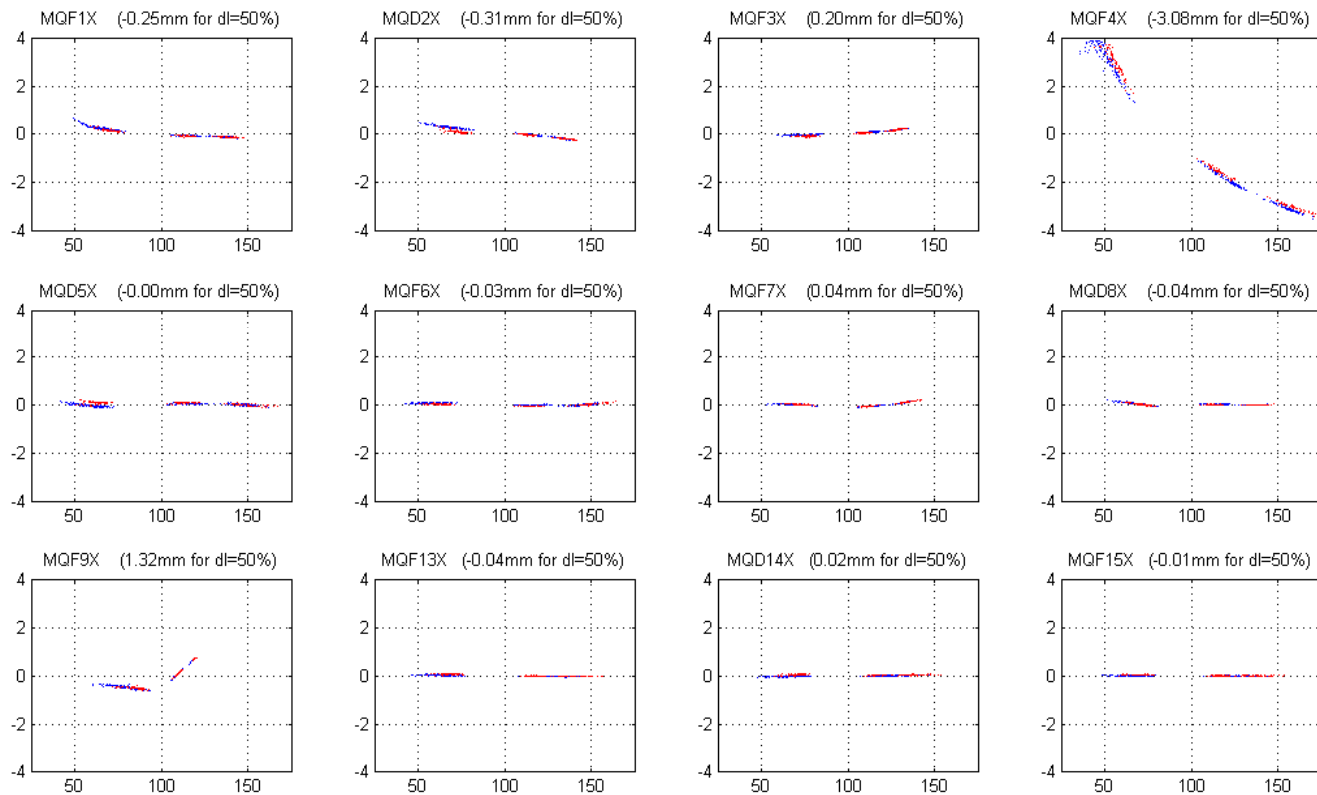
- Software is ready since a while.
- Hardware and calibration problems should be partially solved soon.
- EXT steering should be ready for general use at the end of this run.

# X Intensity dependence



In blue : before kick  
In red : after +1A in ZX1X  
 $100\% = 4A$

# Y Intensity dependence



In blue : before kick  
In red : after +1A in ZX1X  
 $100\% = 4A$