

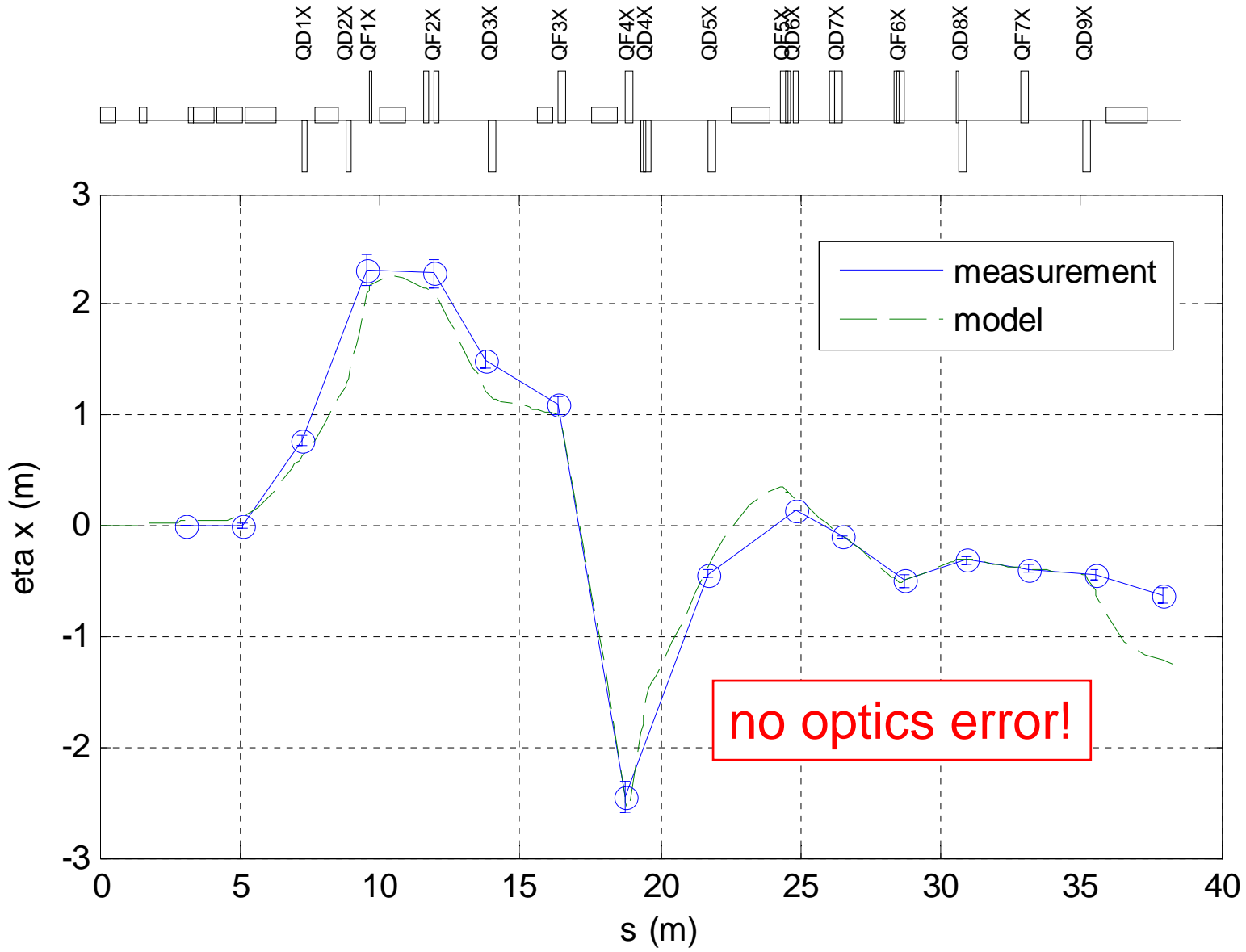
April 24, 2008
17:00-25:00 Shift

EXT Emittance Studies

Before Dispersion Correction

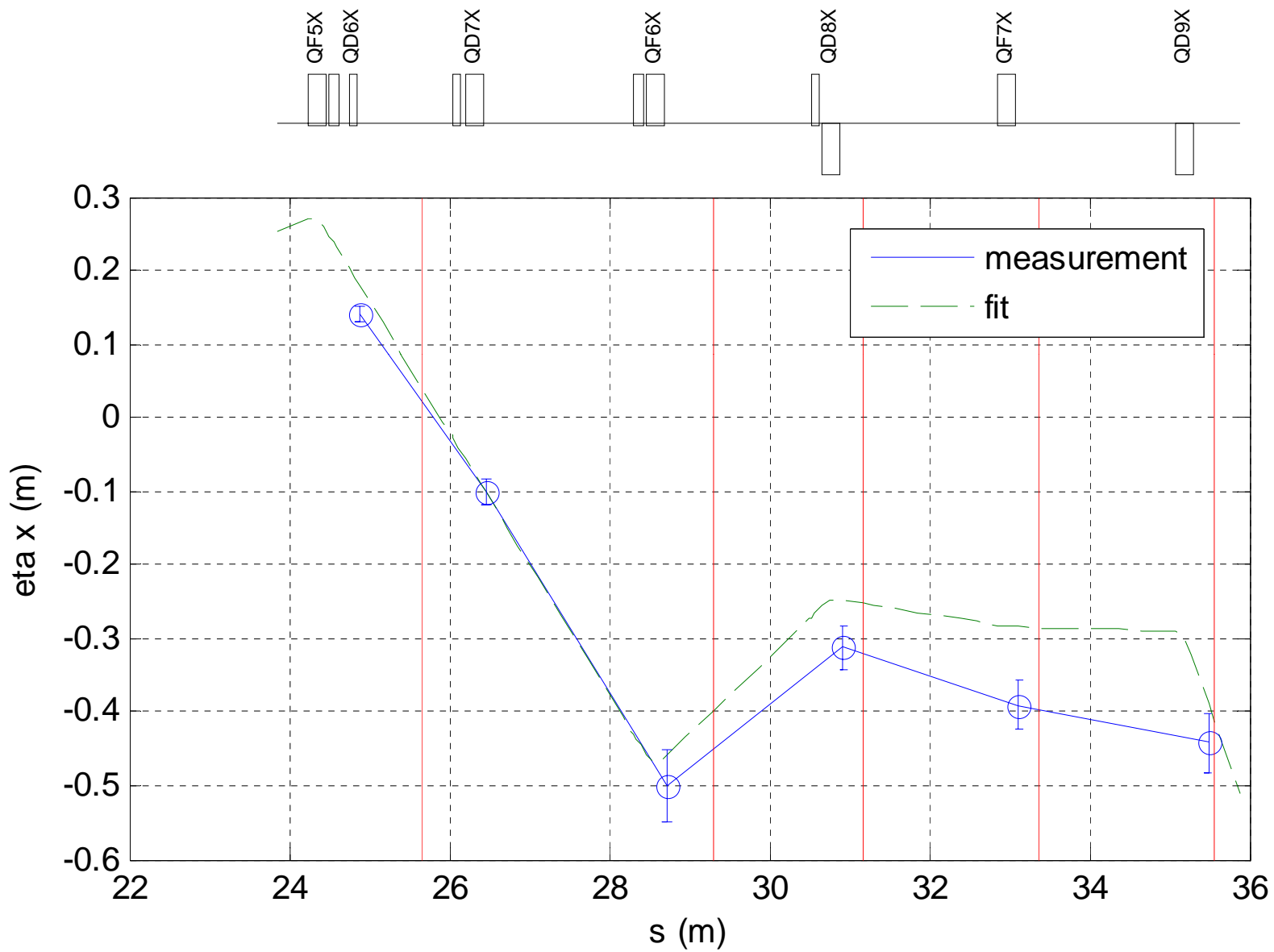
linear fit

EXT Dispersion Measurement



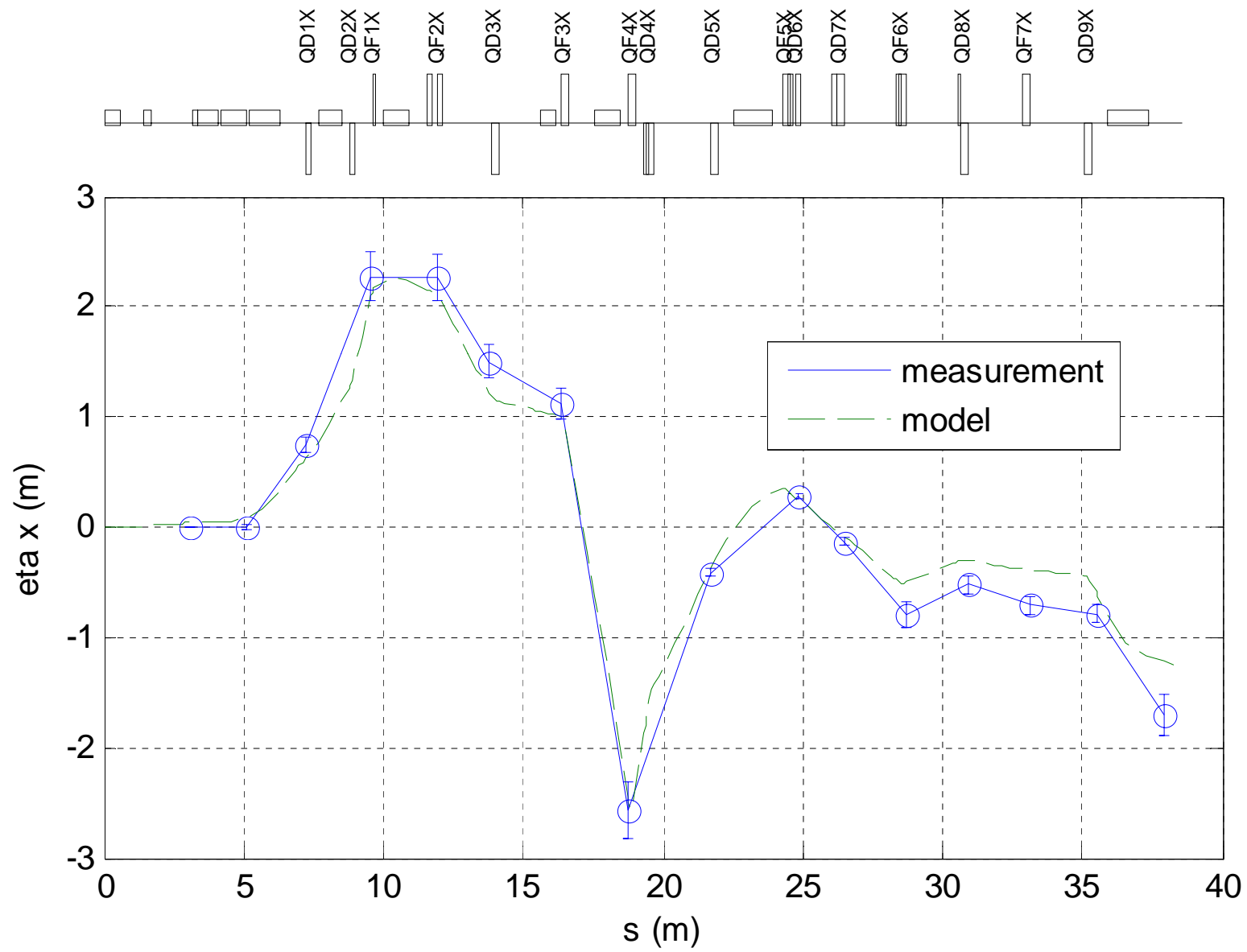
linear fit

EXT Dispersion Measurement: Diagnostic Section Fit



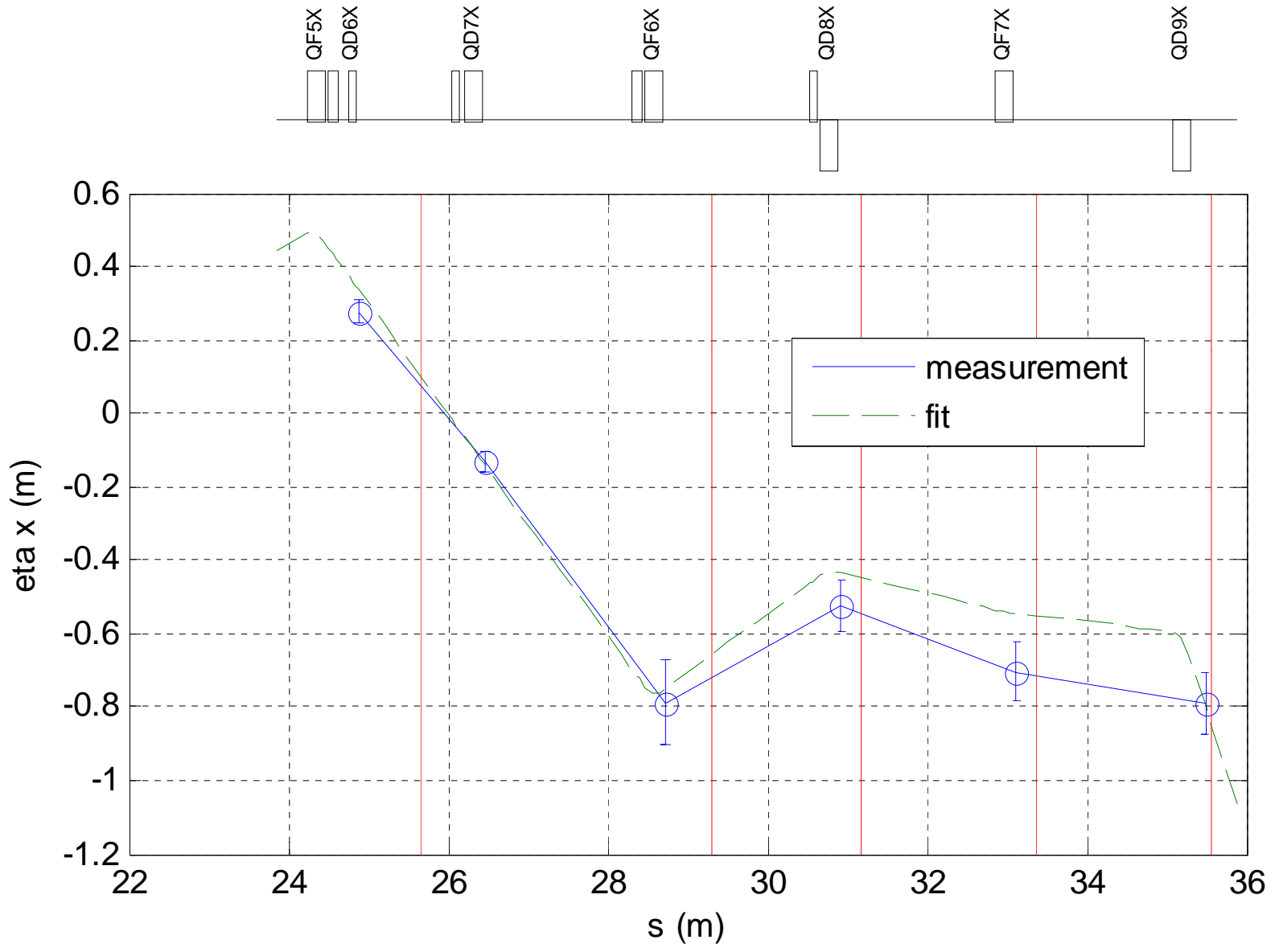
quadratic fit

EXT Dispersion Measurement



quadratic fit

EXT Dispersion Measurement: Diagnostic Section Fit



Linear Fit

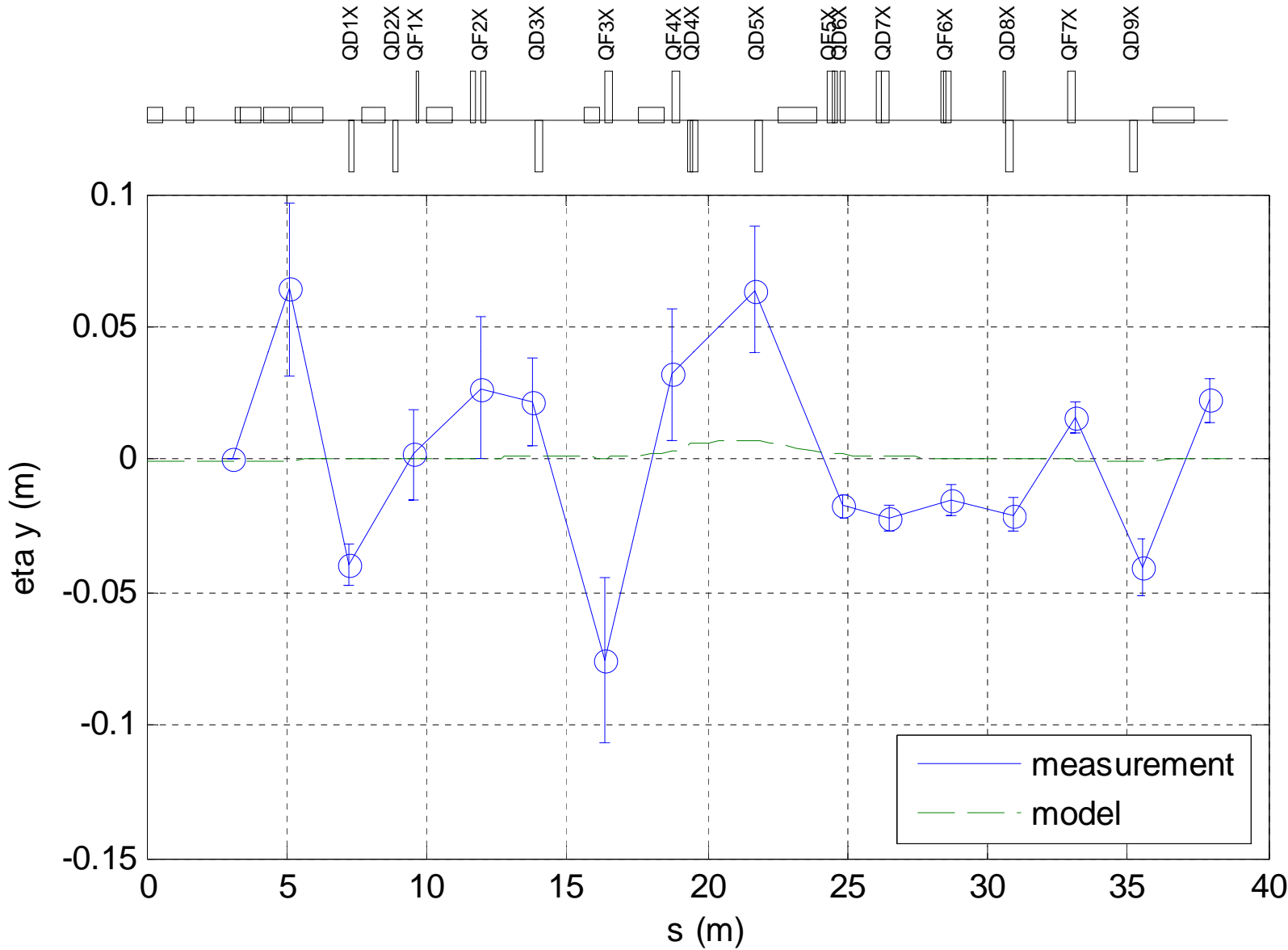
Eta x at MW0X = 40.1 mm
Eta x at MW1X = -398.3 mm
Eta x at MW2X = -252.7 mm
Eta x at MW3X = -285.3 mm
Eta x at MW4X = -411.0 mm

Quadratic Fit

Eta x at MW0X = 98.7 mm
Eta x at MW1X = -657.4 mm
Eta x at MW2X = -446.9 mm
Eta x at MW3X = -551.6 mm
Eta x at MW4X = -850.5 mm

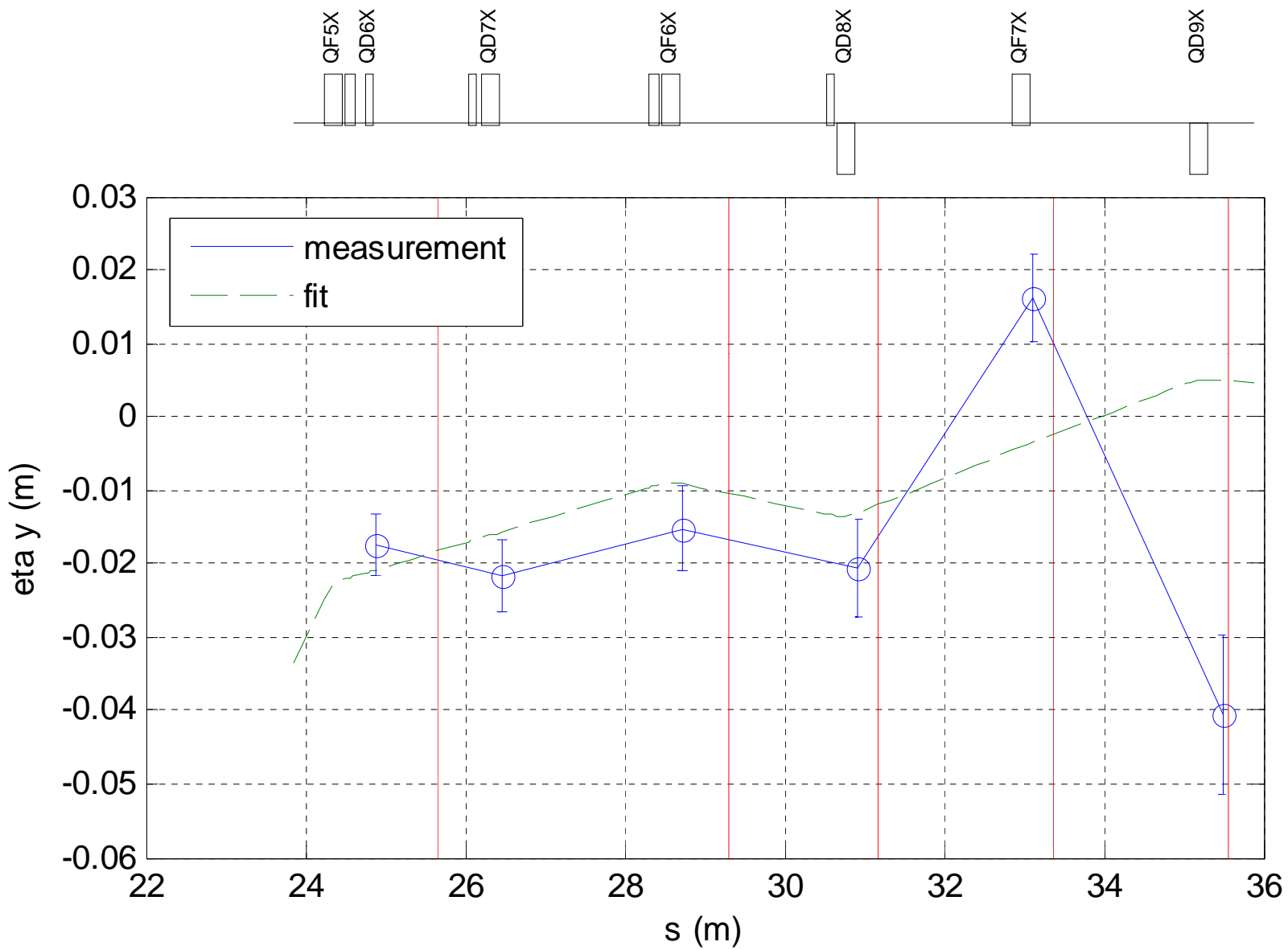
linear fit

EXT Dispersion Measurement



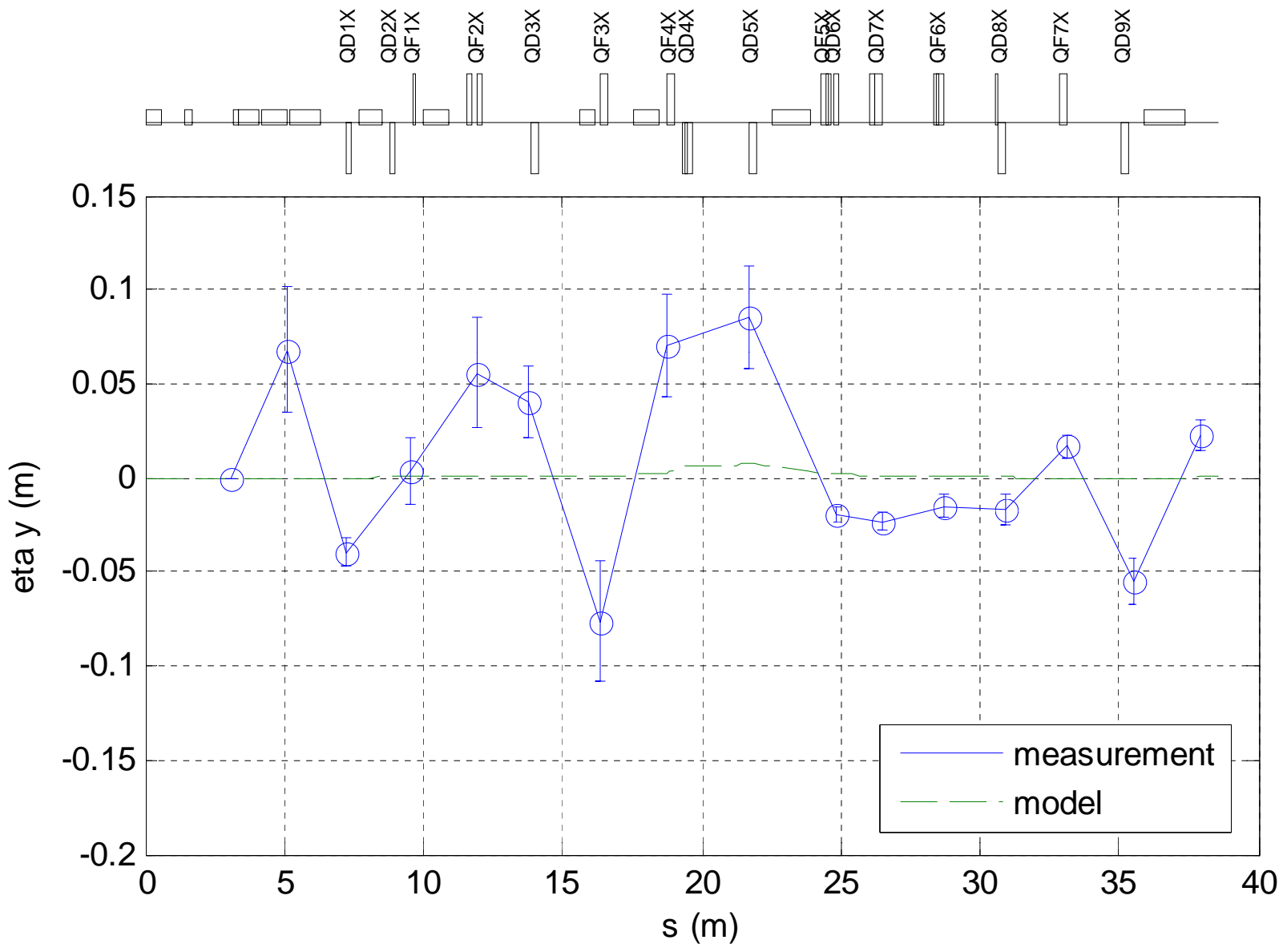
linear fit

EXT Dispersion Measurement: Diagnostic Section Fit



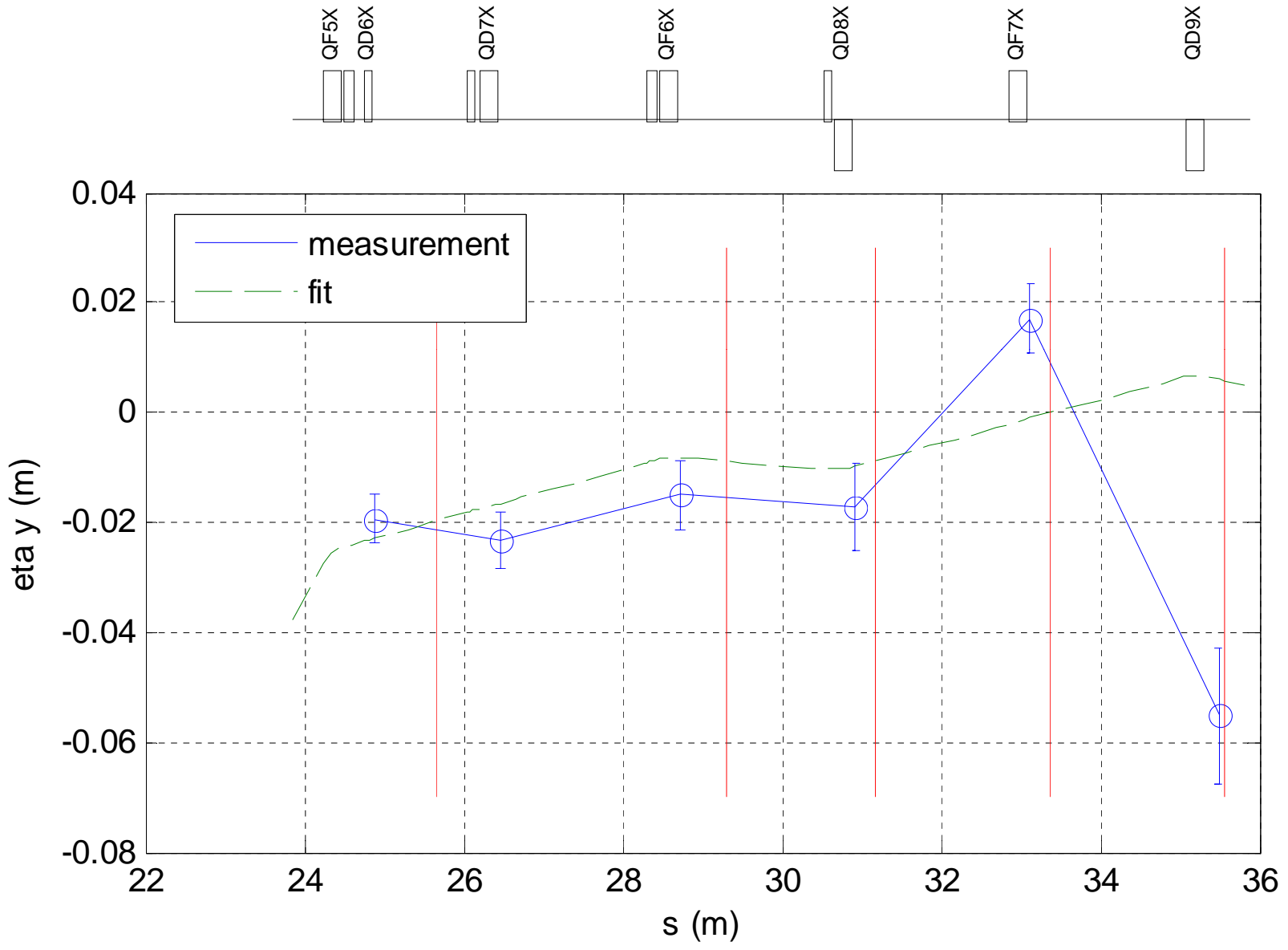
quadratic fit

EXT Dispersion Measurement



quadratic fit

EXT Dispersion Measurement: Diagnostic Section Fit



Linear Fit

Eta y at MW0X =	-18.3 mm
Eta y at MW1X =	-10.5 mm
Eta y at MW2X =	-12.0 mm
Eta y at MW3X =	-2.4 mm
Eta y at MW4X =	4.8 mm

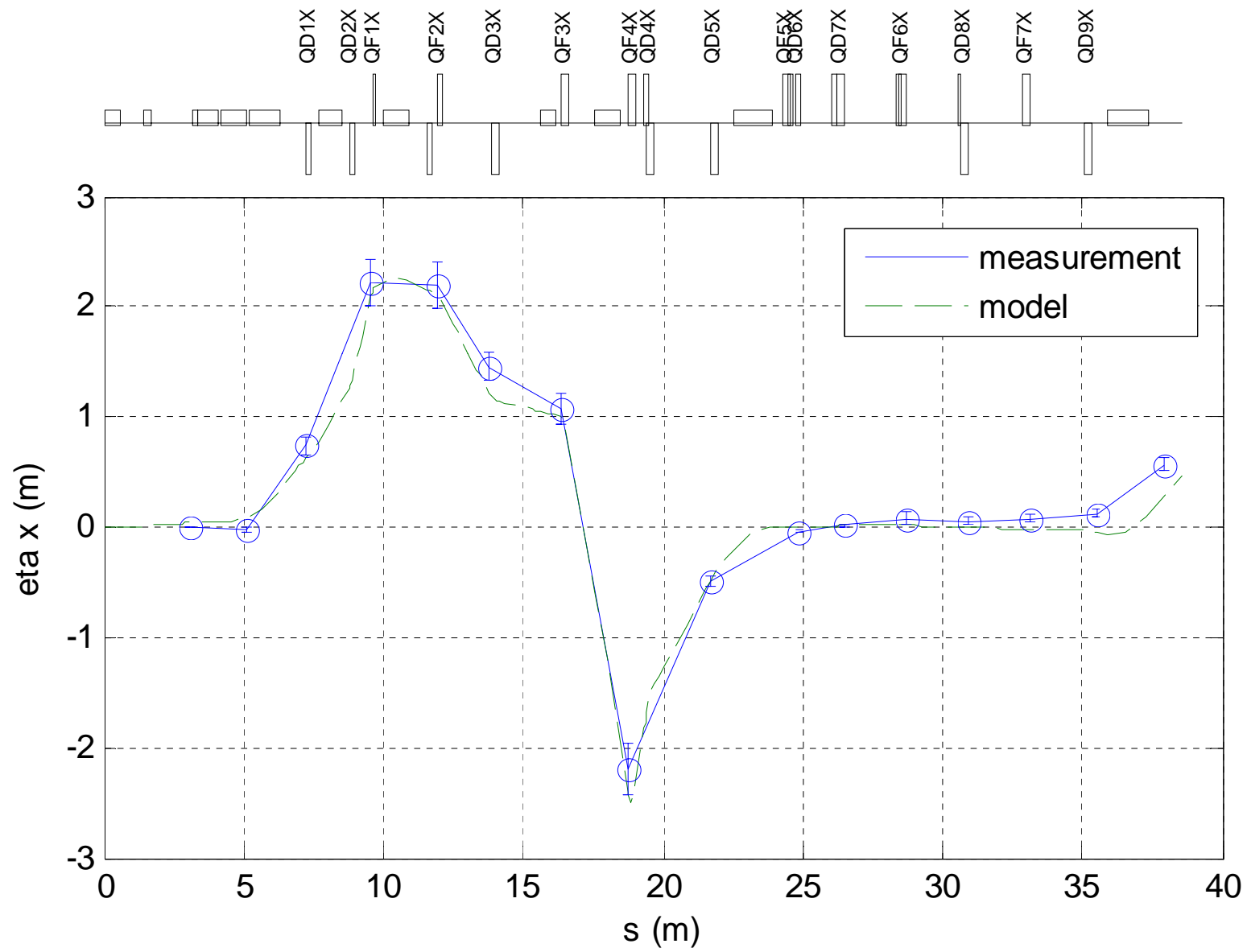
Quadratic Fit

Eta y at MW0X =	-19.7 mm
Eta y at MW1X =	-8.9 mm
Eta y at MW2X =	-8.8 mm
Eta y at MW3X =	-0.1 mm
Eta y at MW4X =	5.8 mm

After Dispersion Correction

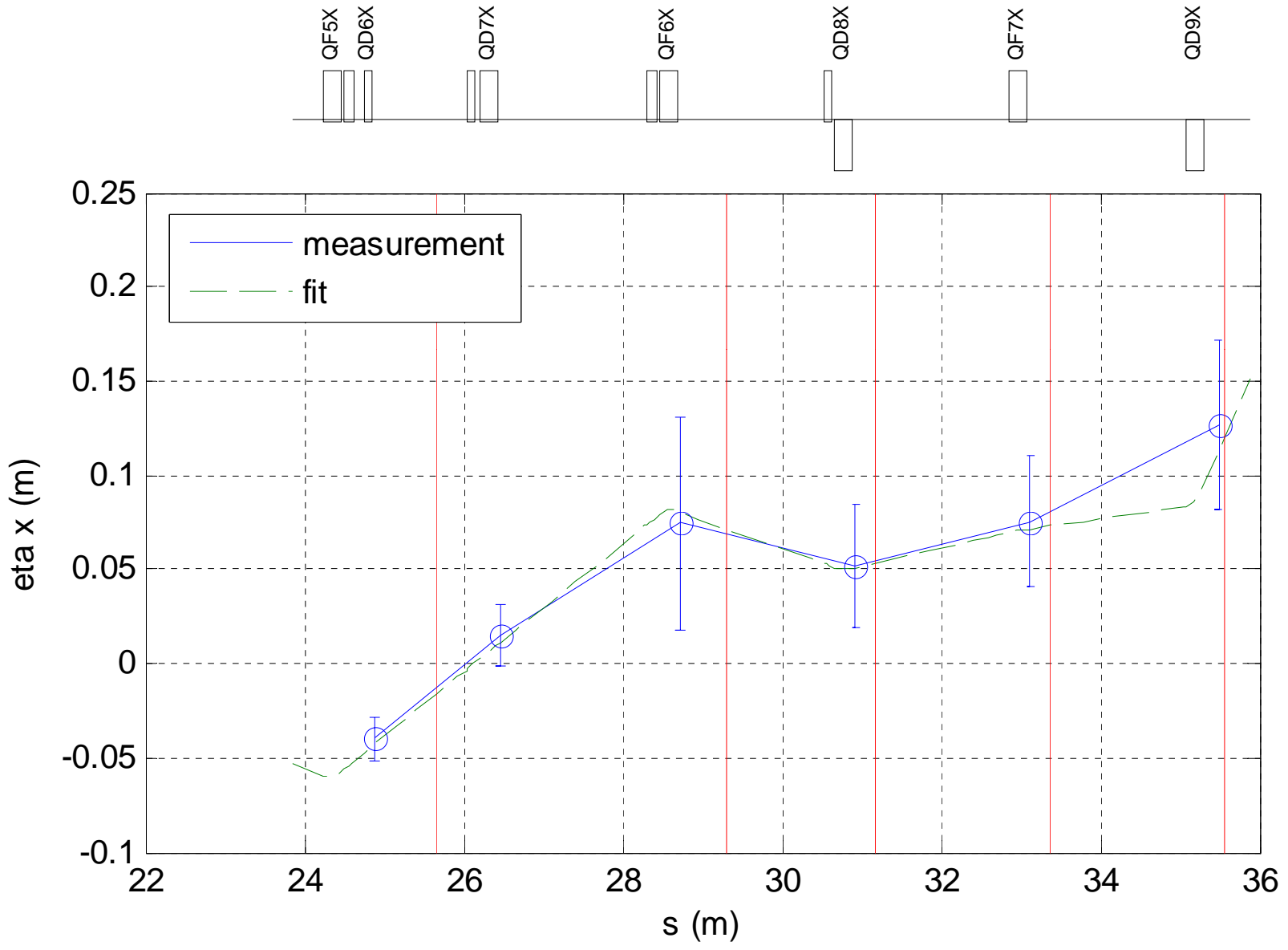
quadratic fit

EXT Dispersion Measurement



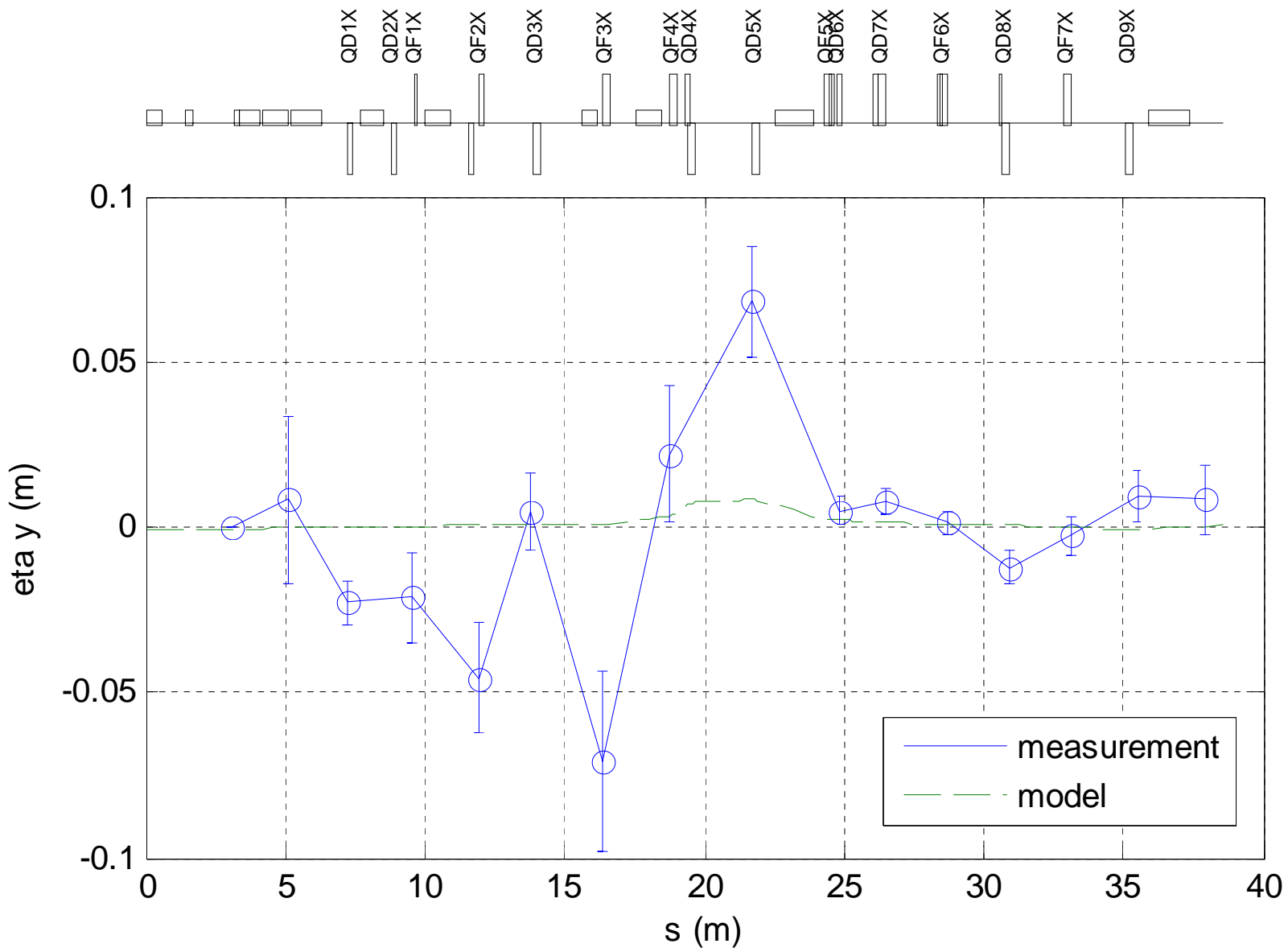
quadratic fit

EXT Dispersion Measurement: Diagnostic Section Fit



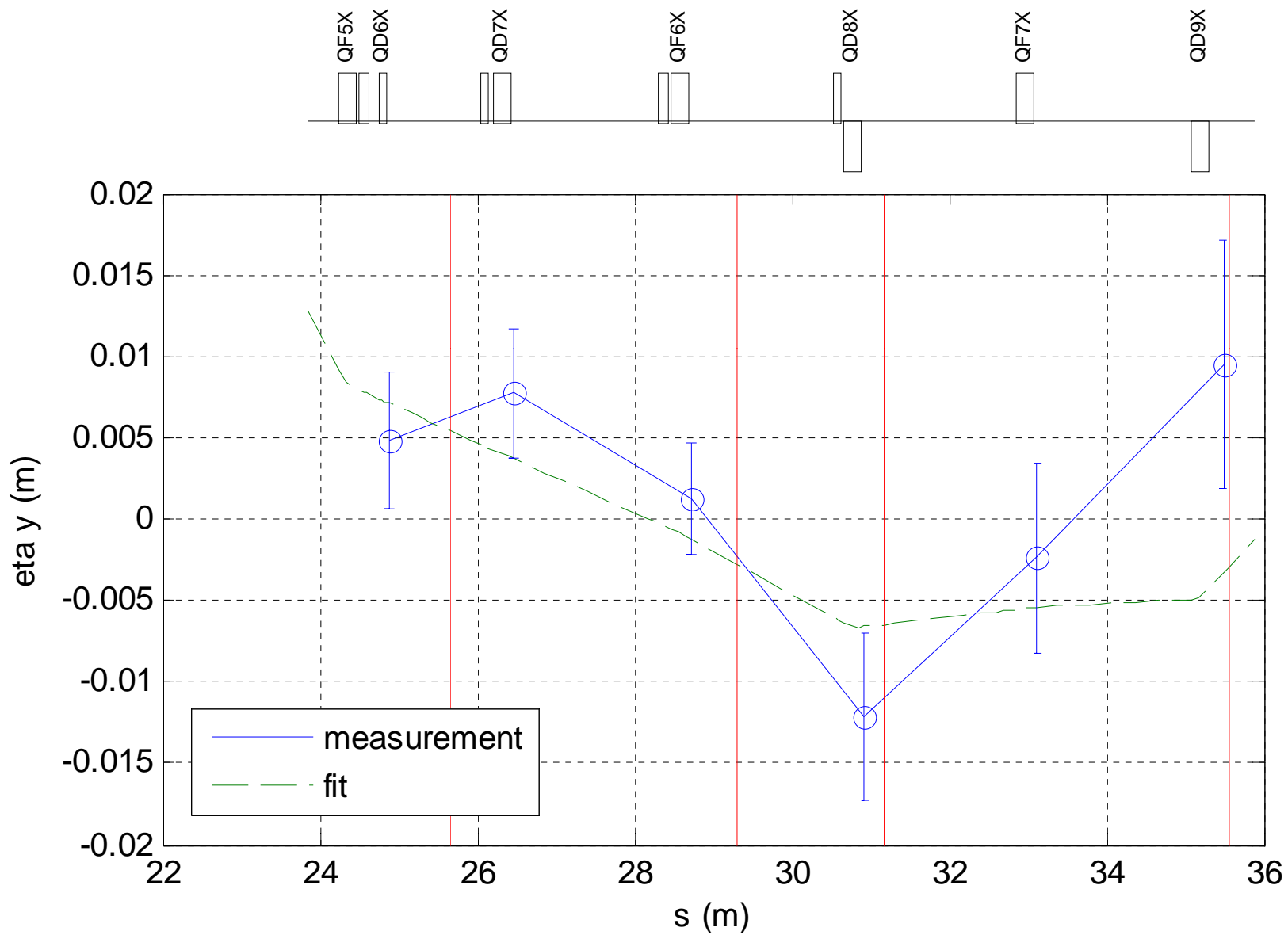
quadratic fit

EXT Dispersion Measurement



quadratic fit

EXT Dispersion Measurement: Diagnostic Section Fit



Quadratic Fit

Eta x at MW0X = -16.0 mm
Eta x at MW1X = 71.5 mm
Eta x at MW2X = 53.4 mm
Eta x at MW3X = 73.1 mm
Eta x at MW4X = 120.5 mm

Quadratic Fit

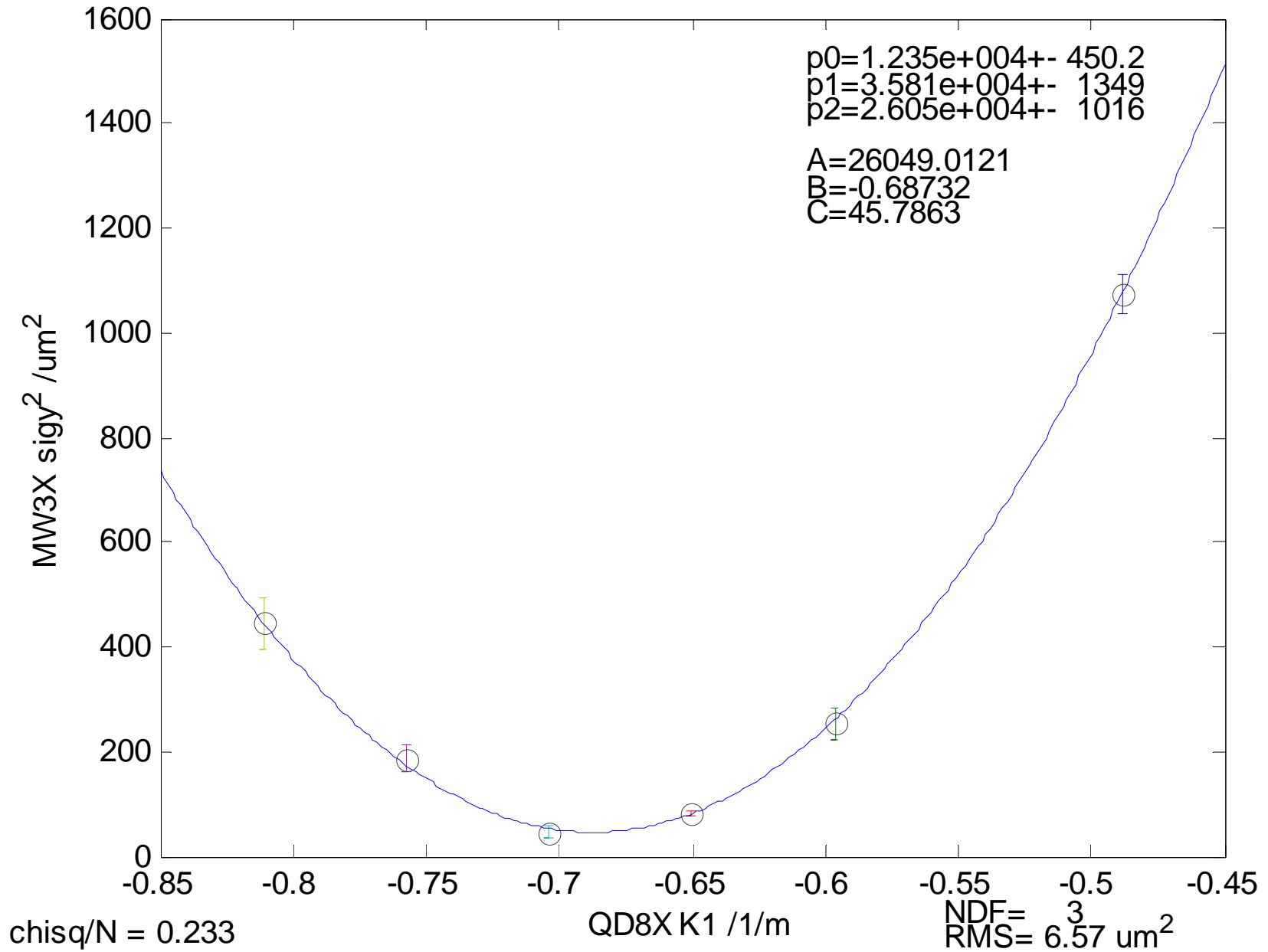
Eta y at MW0X = 5.4 mm
Eta y at MW1X = -2.8 mm
Eta y at MW2X = -6.5 mm
Eta y at MW3X = -5.4 mm
Eta y at MW4X = -2.9 mm

Quad Scans

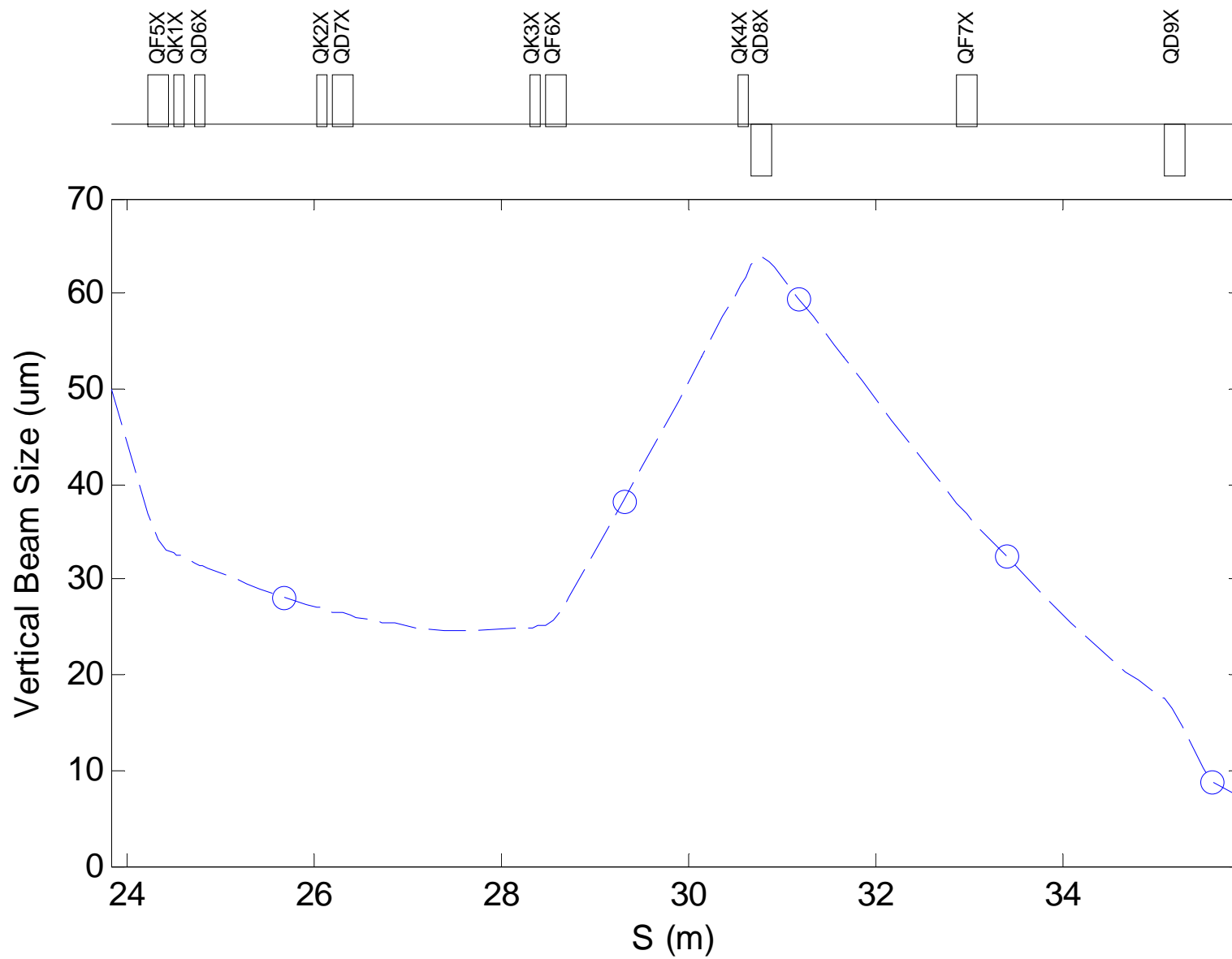
from the model (SET08APR24-1930)

wire	dMUX (deg)	dMUY (deg)
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MW0X	0.0	0.0
MW1X	46.2784	60.4508
MW2X	19.2468	41.6795
MW3X	56.6878	40.2940
MW4X	33.3854	28.4462
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sum	155.5983	170.8705

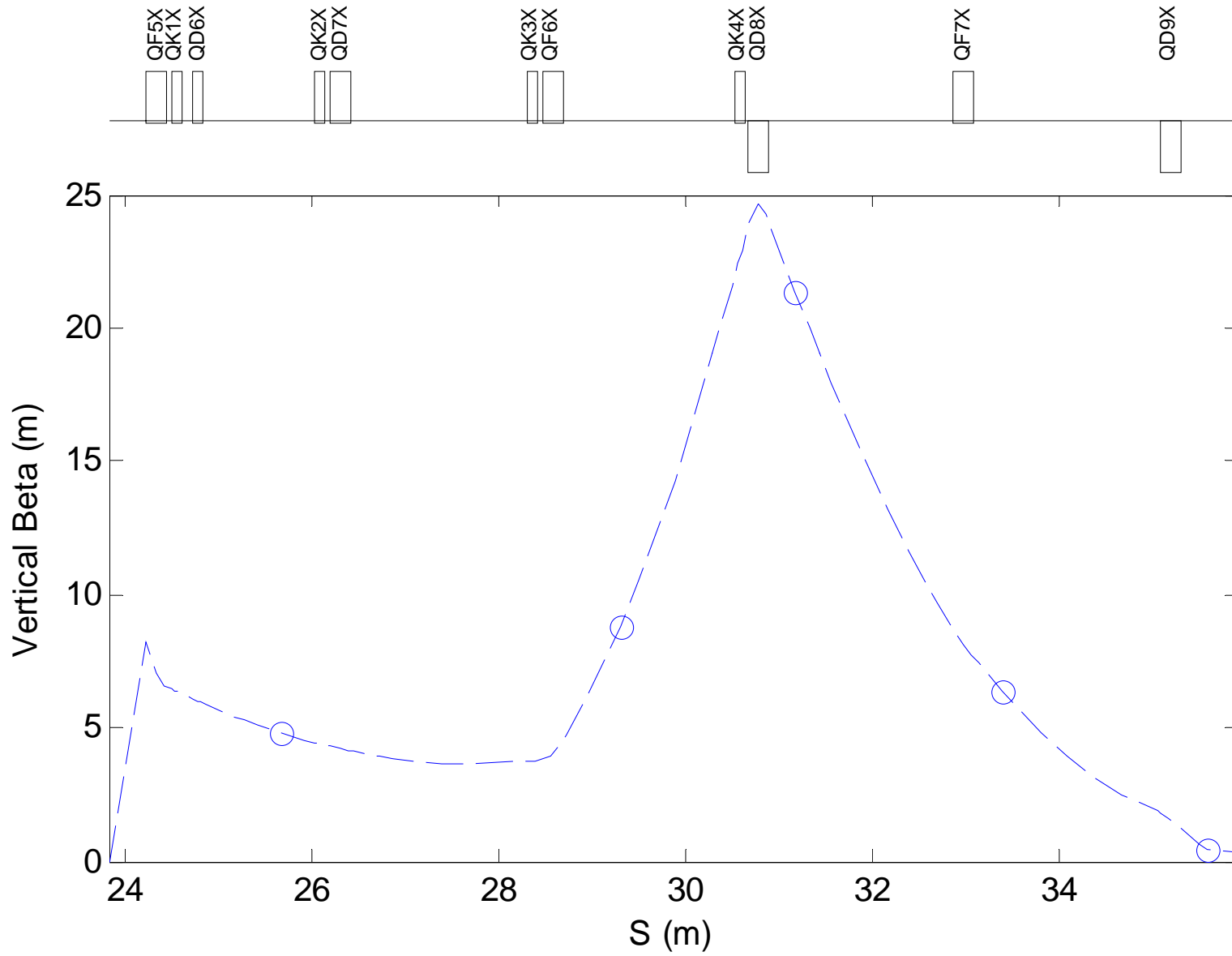
MW3X sigy² VS QD8X K1



EXT Diagnostics Section (SET08APR24_1930)



EXT Diagnostics Section (SET08APR24_1930)



sigt	sigd	sigw	sig
33.13	4.32	2.50	32.76
16.70	4.32	2.50	15.94
10.33	4.32	2.50	9.05
8.43	4.32	2.50	6.80
14.53	4.32	2.50	13.65
21.67	4.32	2.50	21.08

Vertical emittance parameters at upstream end of QD8X
[optics: SET08APR24_1930]

energy	=	1.2733		GeV
emit	=	165.9968 +-	9.2695	pm
emitn	=	413.6319 +-	23.0979	nm
emitn*bmag	=	1397.2140 +-	55.7304	nm
bmag	=	3.3779 +-	0.1704	(1.0000)
bmag_cos	=	0.8858 +-	0.0000	(0.0000)
bmag_sin	=	0.3575 +-	0.0000	(0.0000)
beta	=	23.8522 +-	1.3076	m (3.7445)
alpha	=	-6.8979 +-	0.4150	(-1.2725)
chisq/N	=	0.2334		

Propagated vertical spot sizes

MW0X	=	28.2600	um
MW1X	=	38.3326	um
MW2X	=	59.5179	um
MW3X	=	32.4183	um
MW4X	=	8.9385	um

Vertical wire-to-wire phase advance

MW0X	=	0.0	deg
MW1X	=	49.4	deg
MW2X	=	6.6	deg
MW3X	=	11.2	deg
MW4X	=	58.9	deg