Gun-4.6: field balance fit

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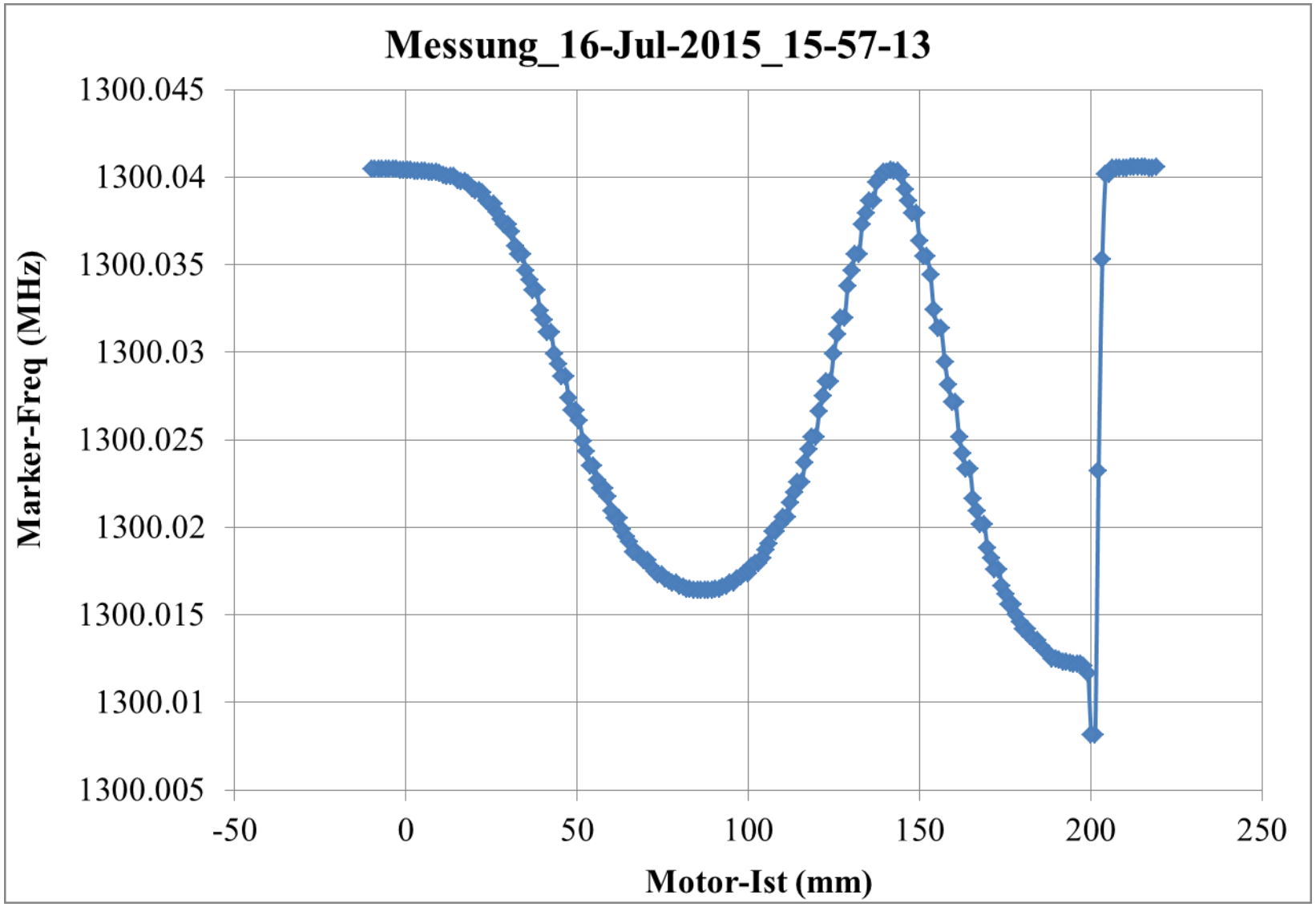
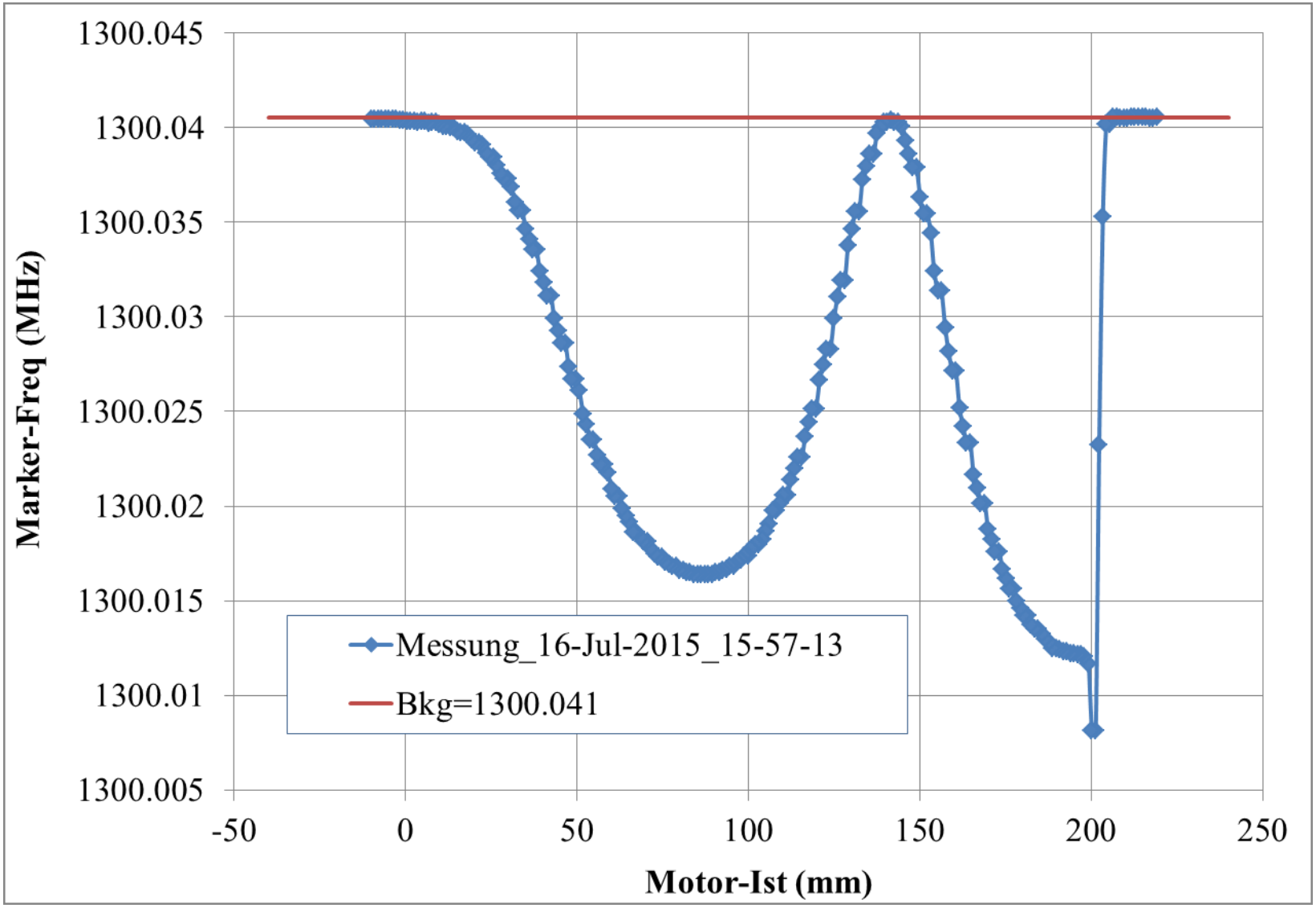
PPS 16.06.2016

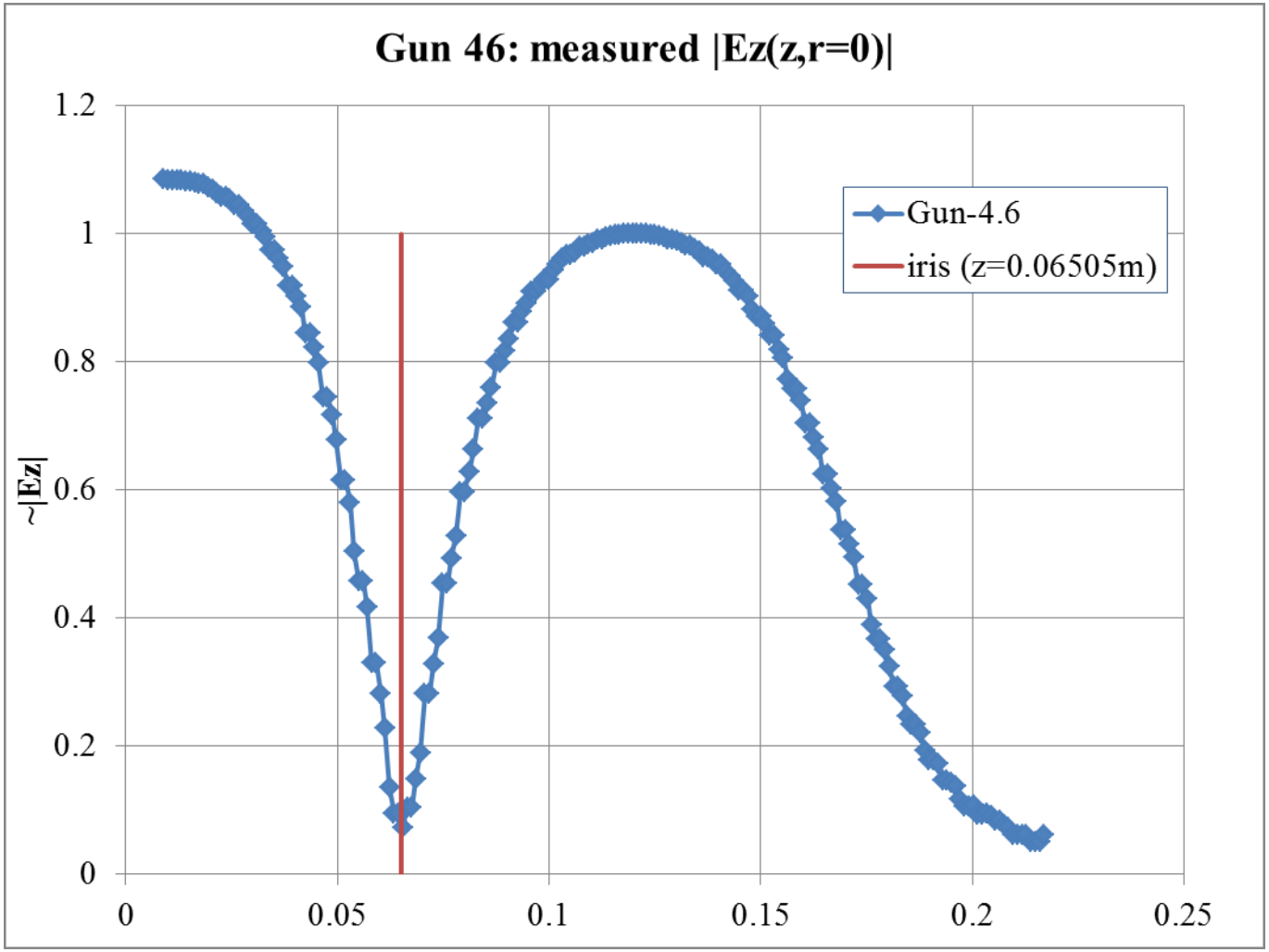
Bead Pull Measurements



Bead Pull Measurements: data treatment-1

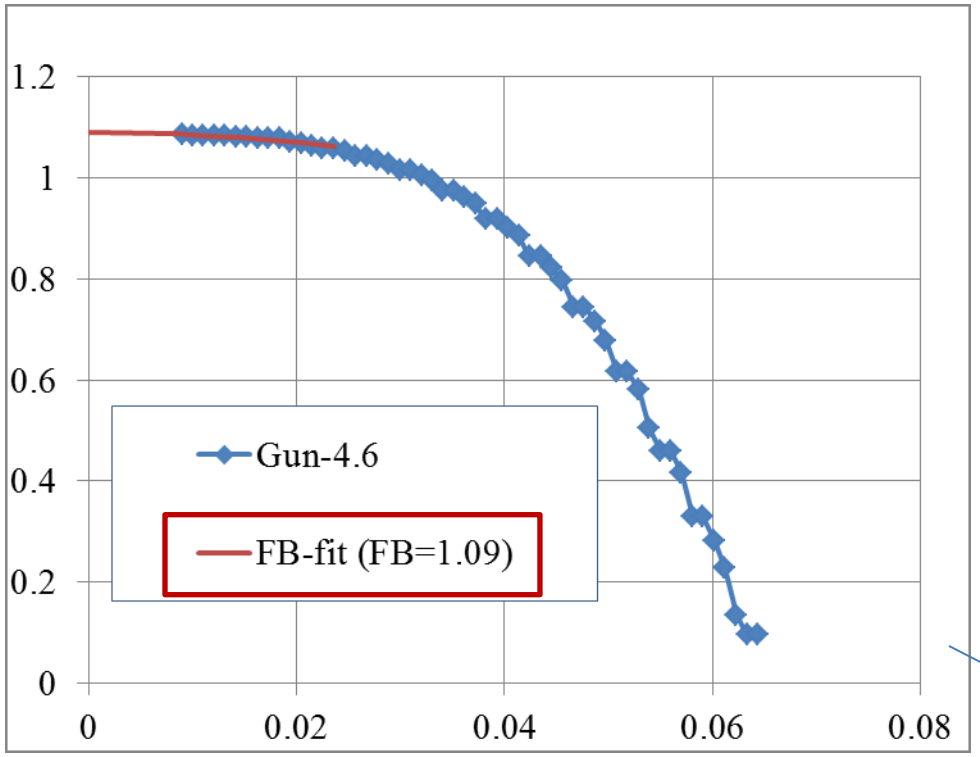


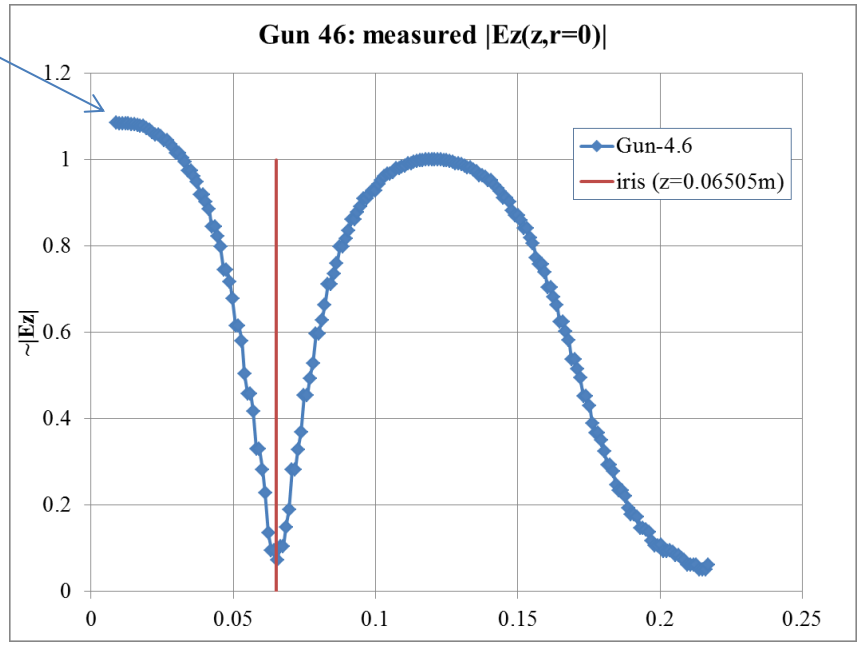
Bead Pull Measurements: data treatment-2



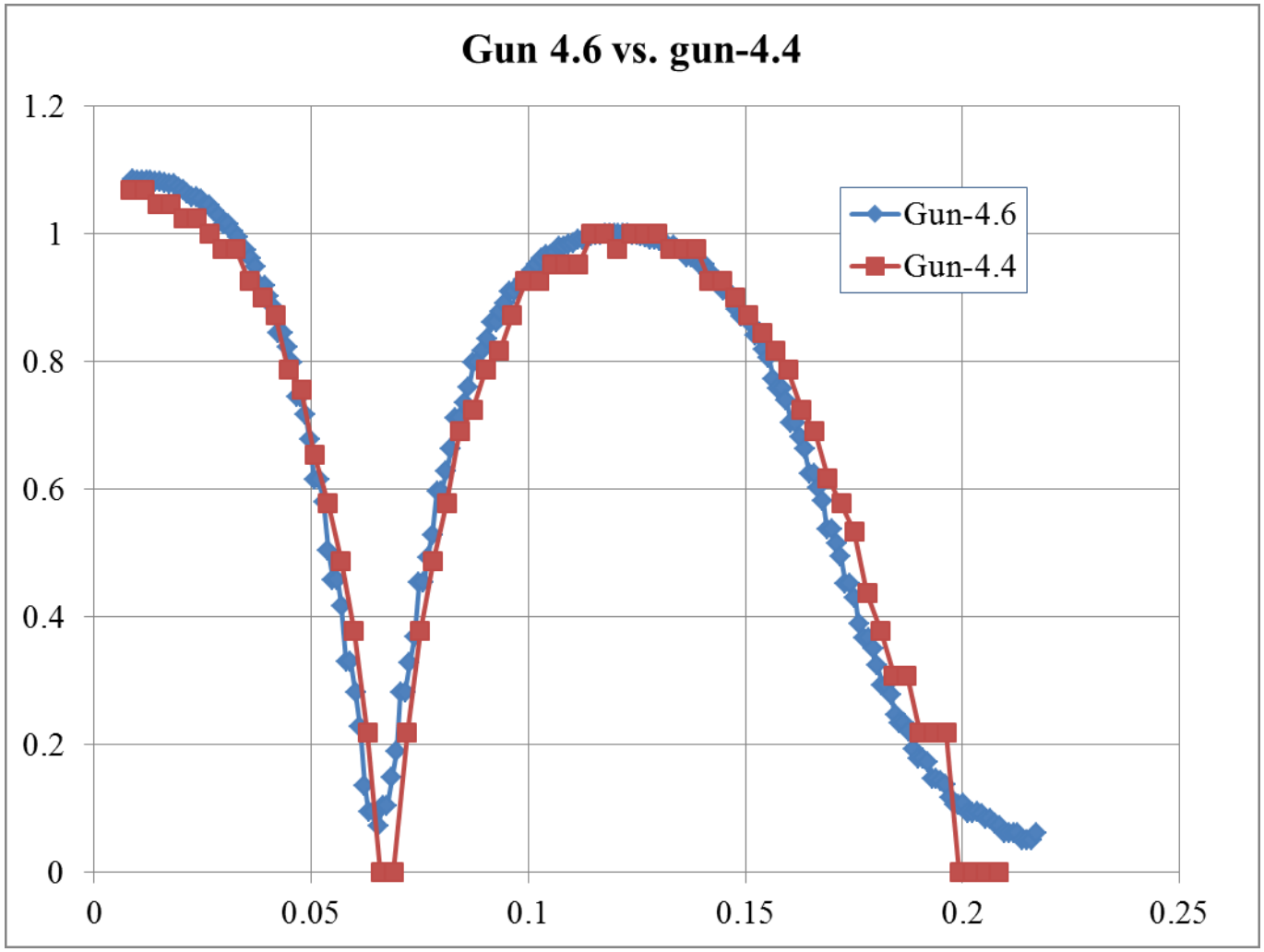
$$\frac{\Delta f(z)}{f}\frac{F_{bead}}{\omega} = \frac{|Ez(z)|^2}{\omega U}$$

Bead Pull Measurements: data treatment-3

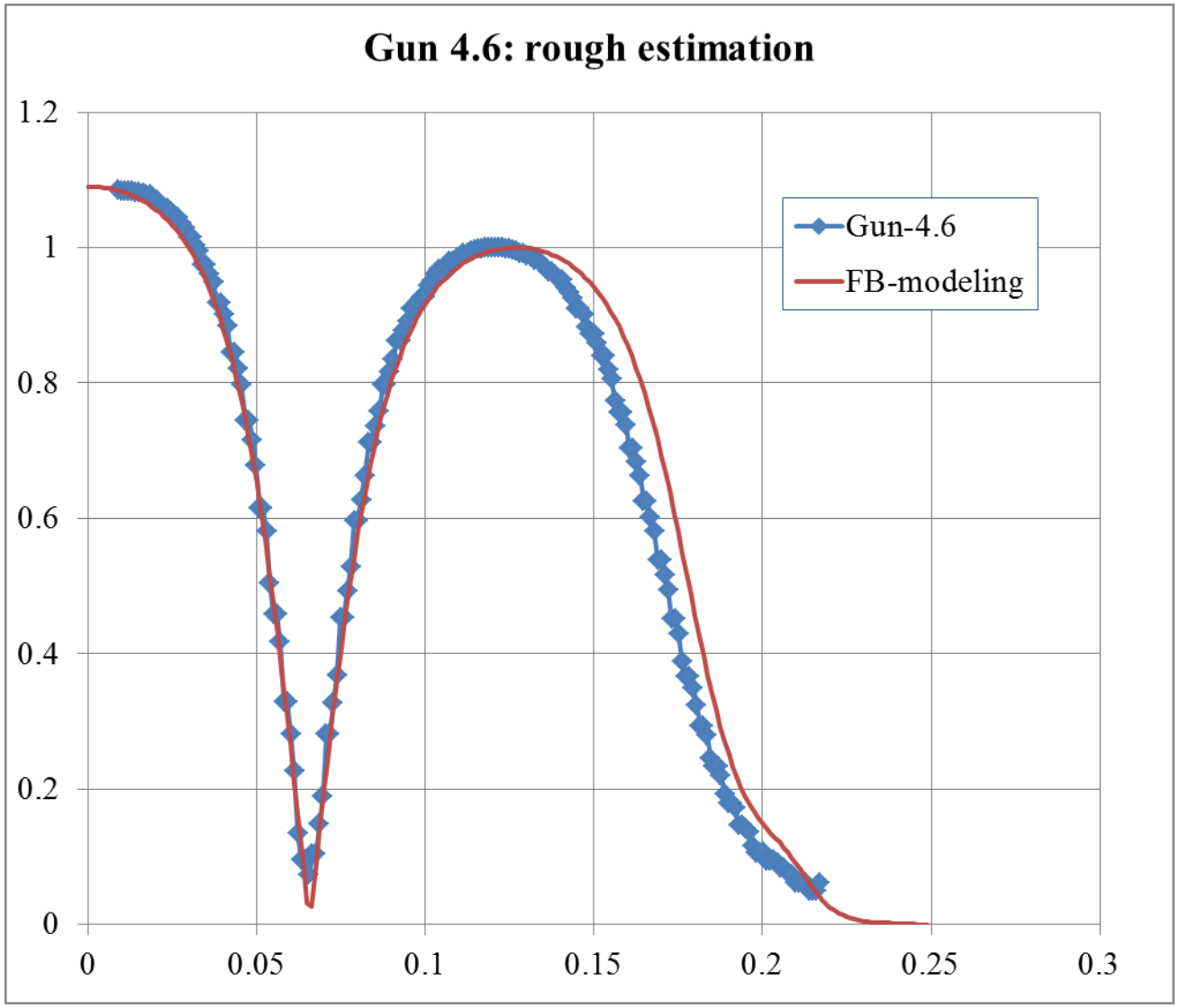




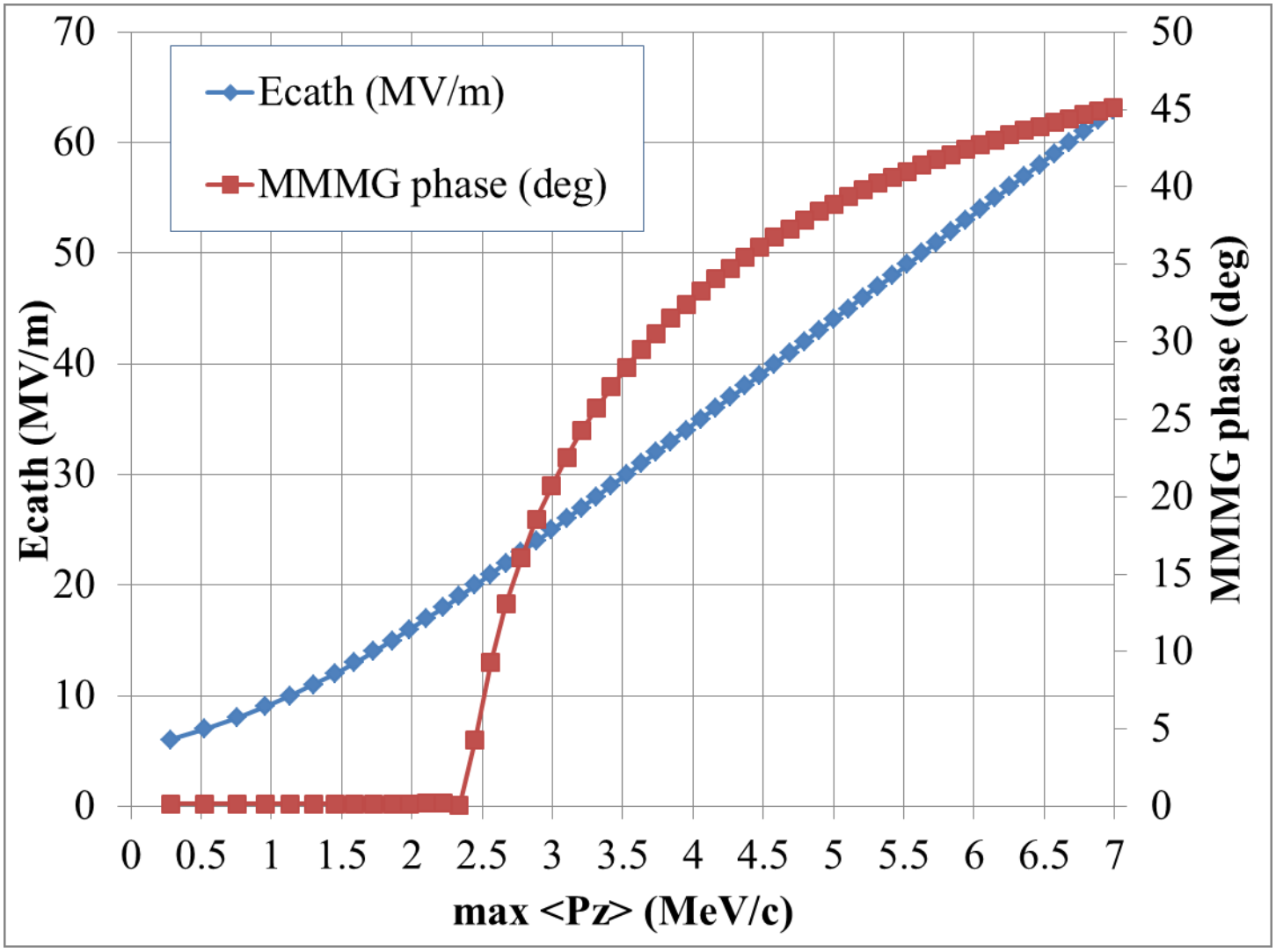
w.r.t. Gun-4.4



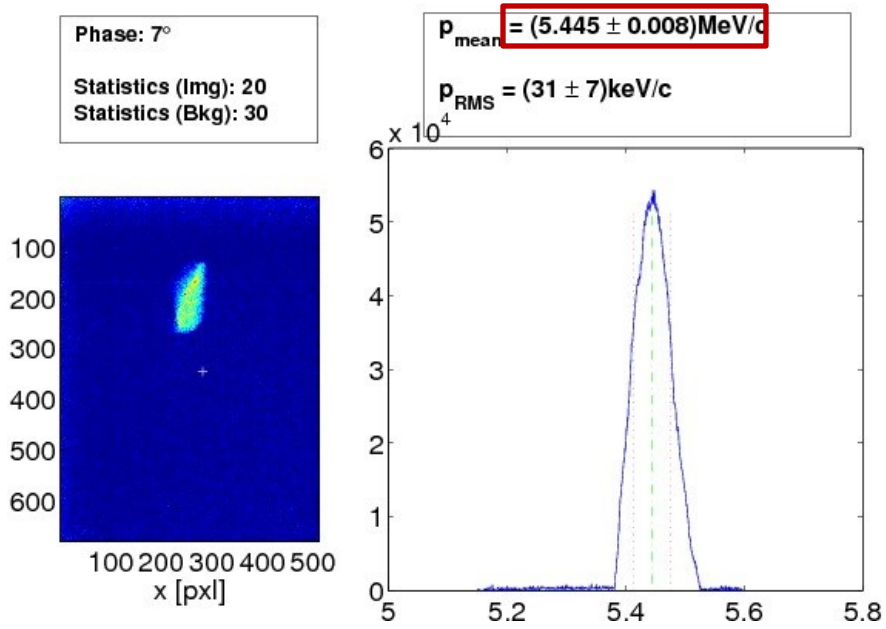
Field Balance rough modeling (FBgen)

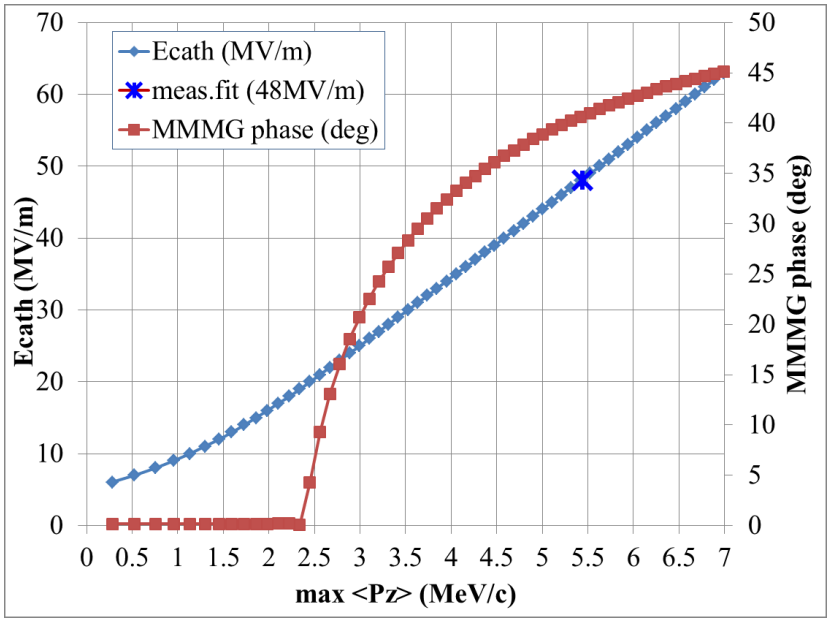


MMMG tracking for FBgen



Gun-4.6: First Pz measurements





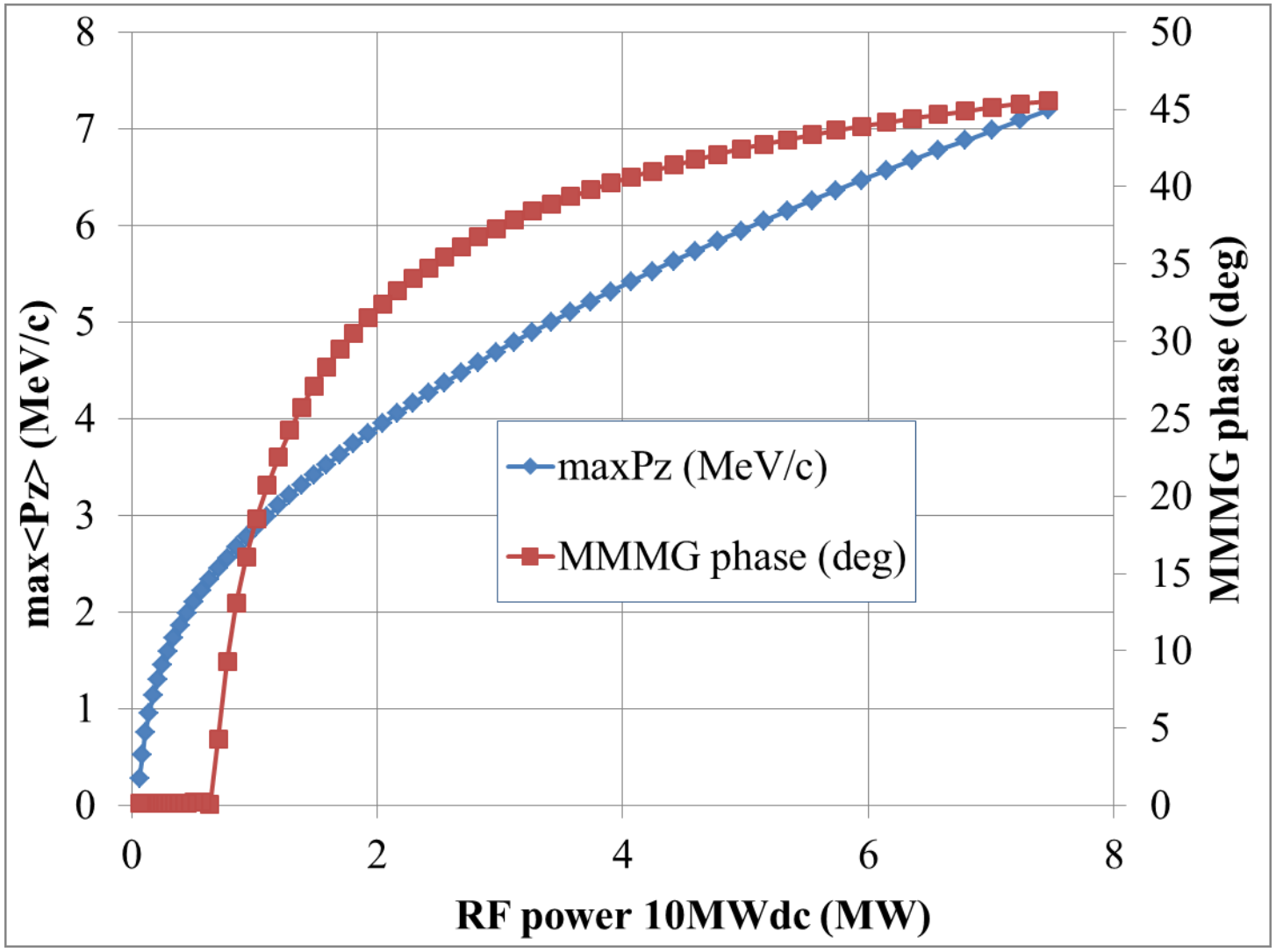
GUN		code	0
		no pulse	
forward power	3.970 MW	gradient	44.011 MV/m
reflected power	0.442 MW	slope	6.869 dBm/ms
power	3.531 MW	reflection	109.923 %%

rf2c10mw_MC.xml PITZ.UTIL/RF2INFO/RF2/

RF2C10MW		code	0
		no pulse	
forward power	4.248 MW	gradient	47.388 MV/m
reflected power	0.197 MW	slope	13.303 dBm/ms
power	4.070 MW	reflection	46.914 %%

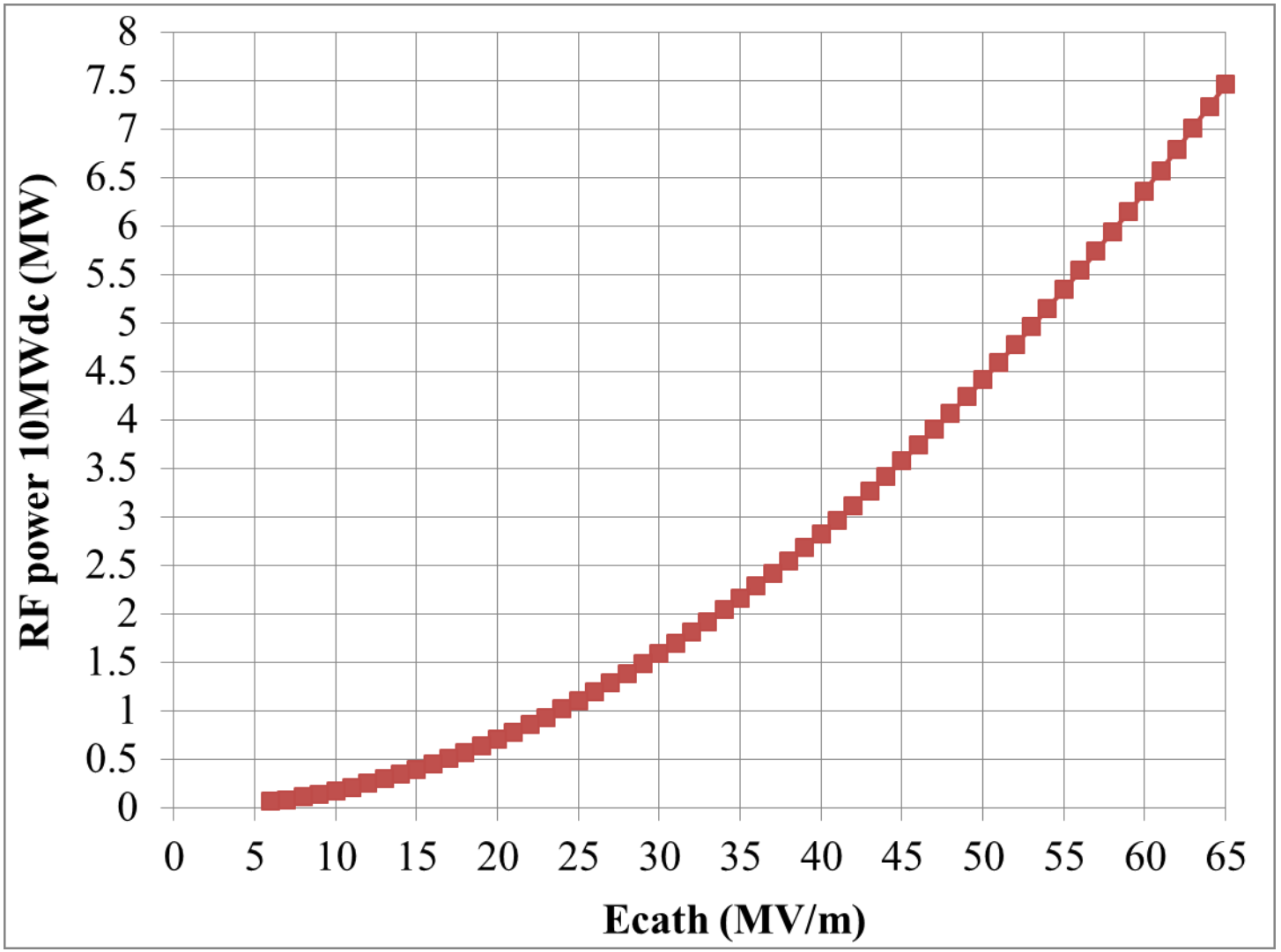
MMMG tracking for FBgen

Pgun(10MWdc)=0.001766*Ecath^2



RF power in gun vs. Ecath

Pgun(10MWdc)=0.001766*Ecath^2



P-program

HV=	9700	V
BSA=	1.2	mm (laser BBA done)
PL=	200	us
Q0=	100	pC

#	goal Pgun	Task	Device	SPAmpl.	measured Pgun (10MWdc)	measurements				Comments	Shift time
1		Laser at VC2, 20+20frames	VC2			Xrms=	Yrms=				
2	max (7.xMW)	Setup gun FB				FB gain=					
3	max (7.xMW)	Charge scan at zero-crossing phase (low Q), step 0.5deg	LOW.FC1			LT=	Phi0=	Imain=		Charge phase scan GUI+evaluation script	
4	max (7.xMW)	Adjust charge to Q0 at SPPhase~Phi0-45, tuning Imain	LOW.FC1			Q=	Imain=	LT=		LOW.Scr1 for e-beam size check	
5	max (7.xMW)	LEDA scan MMMG+/-10deg, step 0.5deg, tune Imain	OMA			Imain=	PhiMMMG=			Imain->vert. focus at LEDA	
6	max (7.xMW)	LEDA measurements at MMMG phase, 100 frames	OMA			PhiMMMG=	max<Pz>=				
7	7MW	Setup gun FB				FB gain=					
8	7MW	Charge scan at zero-crossing phase (low Q), step 0.5deg	LOW.FC1			LT=	Phi0=	Imain=		Charge phase scan GUI+evaluation script	
9	7MW	Adjust charge to Q0 at SPPhase~Phi0-45, tuning Imain	LOW.FC1			Q=	Imain=	LT=		LOW.Scr1 for e-beam size check	
10	7MW	LEDA scan MMMG+/-10deg, step 0.5deg, tune Imain	OMA			Imain=	PhiMMMG=			Imain->vert. focus at LEDA	
11	7MW	LEDA measurements at MMMG phase, 100 frames	OMA			PhiMMMG=	max<Pz>=				
12	6.5MW	Setup gun FB				FB gain=					
13	6.5MW	Charge scan at zero-crossing phase (low Q), step 0.5deg	LOW.FC1			LT=	Phi0=	Imain=		Charge phase scan GUI+evaluation script	
14	6.5MW	Adjust charge to Q0 at SPPhase~Phi0-45, tuning Imain	LOW.FC1			Q=	Imain=	LT=		LOW.Scr1 for e-beam size check	
15	6.5MW	LEDA scan MMMG+/-10deg, step 0.5deg, tune Imain	OMA			Imain=	PhiMMMG=			Imain->vert. focus at LEDA	
16	6.5MW	LEDA measurements at MMMG phase, 100 frames	OMA			PhiMMMG=	max<Pz>=				
17	6MW	Setup gun FB				FB gain=					
18	6MW	Charge scan at zero-crossing phase (low Q), step 0.5deg	LOW.FC1			LT=	Phi0=	Imain=		Charge phase scan GUI+evaluation script	
19	6MW	Adjust charge to Q0 at SPPhase~Phi0-45, tuning Imain	LOW.FC1			Q=	Imain=	LT=		LOW.Scr1 for e-beam size check	
20	6MW	LEDA scan MMMG+/-10deg, step 0.5deg, tune Imain	OMA			Imain=	PhiMMMG=			Imain->vert. focus at LEDA	
21	6MW	LEDA measurements at MMMG phase, 100 frames	OMA			PhiMMMG=	max<Pz>=				
22	5.5MW	Setup gun FB				FB gain=					
23	5.5MW	Charge scan at zero-crossing phase (low Q), step 0.5deg	LOW.FC1			LT=	Phi0=	Imain=		Charge phase scan GUI+evaluation script	
24	5.5MW	Adjust charge to Q0 at SPPhase~Phi0-45, tuning Imain	LOW.FC1			Q=	Imain=	LT=		LOW.Scr1 for e-beam size check	
25	5.5MW	LEDA scan MMMG+/-10deg, step 0.5deg, tune Imain	OMA			Imain=	PhiMMMG=			Imain->vert. focus at LEDA	