

Run plan for week 35 (single-week run block)

Sta - Overall stability check

LasFT – laser temporal pulse shape tuning

PE - Projected emittance studies Long Gauss, 500pC → best setup + 0.9um foil (EMSY2+LYSO)

PEG500F

SE - Slice emittance studies SE

FR – Fast recovery (6.5MW x 650us) → Tue-Wed(+Thurs?), 15:00-17:30 (O. Hensler)

FR

PL – Tests for plasma cell (+foil) PL

THz – 4nC beam measurements → 1shift

OMA – OMA methodic (2 scans with full image collection, + modulation tests?) OMA

Emi – Emission studies → LT scan with LOW.ICT1@ADC 1 shift? Q-train

QE- QE and QE-map measurements QE

3DElla – PE production 3DElla

to do:	Shutdown						
Week 35	Mon Aug-29	Tue Aug-30	Wed Aug-31	Thu Sep-01	Fri Sep-02	Sat Sep-03	Sun Sep-04
Morn. 07:00 to 15:30	LasBBA Gross Lishilin	PL Lishilin	Q-train Gross	Gross Chen	Gross Chen	Boonpornpras Chen	Boonpornpras Chen
Late 15:00 to 23:30	QE Rublack Kalantaryan	RC Rublack Kalantaryan	FR	Rublack Li	Rublack Li	Rublack Li	Rublack Li
Night 23:00 to 07:30	OMA Meikunyan	PEG500F Boonpornpras Melkunyan	THz	Renier Lishilin	Renier Lishilin	Gross Lishilin	Lishilin
Resp. Phys							
Laser	Gross	Gross	Gross	Gross	Gross	Gross	Gross
RF							
Vaku.	Philipp	Philipp	Philipp	Philipp	Philipp	Philipp	Philipp
Contr.	Kalantaryan	Kalantaryan	Kalantaryan	Kalantaryan	Kalantaryan	Kalantaryan	Kalantaryan
Electr.	Schade	Schade	Schade	Schade	Schade	Schade	Schade
Infrast.	Hoffmann	Hoffmann	Hoffmann	Hoffmann	Hoffmann	Hoffmann	Hoffmann
SSB	Gross	Gross	Gross	Gross	Gross	Gross	Gross
Schichtabsich	Li	Saisa-Ard	Saisa-Ard	Qian	Qian	Zhao	Zhao

LasFT tuning with TDS

Long-term run planning

KW	Date	Run / Shutdown	Conditions	Measurements	#of shifts	coordinator	Remarks
35	29-Aug	run	0.9um foil between H1.S1 and H1.S2	Tests for plasma cell	1-2	MG	
	30-Aug			QE, QE-map	1-2	TR, JG	
	31-Aug			THz4nC	1	PB	
	1-Sep			OMA methodic	1	HH (+MK)	
	2-Sep	Emission		1	YC		
	3-Sep	Pulse shaping with TDS		10?	MG, GL		
	4-Sep	FR FSM tests		2-3 (15-17:30)	+O. Hensler		
	36	5-Sep		shutdown	foil is removed, FT laser?		
6-Sep							
7-Sep							
8-Sep							
9-Sep							
10-Sep							
37	12-Sep	run	Plasma cell installation	3DElla-->PE		TR, JG	
	13-Sep			Emittance			
	14-Sep			LaserPS?		GL	
	15-Sep						
	16-Sep						
	17-Sep						
	18-Sep						
38	19-Sep	shutdown	Plasma cell installation				
	20-Sep						
	21-Sep						
	22-Sep						
	23-Sep						
	24-Sep						
	25-Sep						
39	26-Sep	shutdown	Plasma cell installation				
	27-Sep						
	28-Sep						
	29-Sep						
	30-Sep						
	1-Oct						
40	2-Oct	run	Plasma cell installation				
	3-Oct						
	4-Oct			Plasma		MG	
	5-Oct			3DElla-->PE		TR, JG	
	6-Oct						
	7-Oct						
	8-Oct						
41	9-Oct	run	Plasma cell installation				
	10-Oct						
	11-Oct						
	12-Oct						
	13-Oct						
	14-Oct						
	15-Oct						
	16-Oct						
42	17-Oct	shutdown	Plasma cell installation				
	18-Oct						
	19-Oct						
	20-Oct						
	21-Oct						
	22-Oct						
	23-Oct						
	24-Oct						
	25-Oct						
	26-Oct						
43	27-Oct	run	Plasma cell installation				
	28-Oct						
	29-Oct						
	30-Oct						
	31-Oct						
	1-Nov						
44	2-Nov	shutdown	Plasma cell installation				
	3-Nov						
	4-Nov						
	5-Nov						
45	6-Nov	run	Plasma cell installation				
	7-Nov						
	8-Nov						
	9-Nov						
	10-Nov						
	11-Nov						
46	12-Nov	run	Plasma cell installation				
	13-Nov						
	14-Nov						
	15-Nov						
	16-Nov						
	17-Nov						
	18-Nov						
47	19-Nov	shutdown	Plasma cell installation				
	20-Nov						
	21-Nov						
	22-Nov						
	23-Nov						
	24-Nov						
	25-Nov						
	26-Nov						
48	27-Nov	run	Plasma cell installation				
	28-Nov						
	29-Nov						
	30-Nov						
	1-Dec						
	2-Dec						
49	3-Dec	shutdown	Plasma cell installation				
	4-Dec						
	5-Dec						
	6-Dec						
	7-Dec						
	8-Dec						
	9-Dec						
	10-Dec						
	11-Dec						
	50			12-Dec	run	Plasma cell installation	
13-Dec							
14-Dec							
15-Dec							
16-Dec							
17-Dec							
18-Dec							
19-Dec							
51	20-Dec	shutdown	Plasma cell installation				
	21-Dec						
	22-Dec						
	23-Dec						
	24-Dec						

Measurement program 2016

#	Task	Coordinator	Duration (shifts)	Meas. Program	Remark	
1	Dark current monitoring		30min-1h	+	6.5MW, 200us, 1% + DCM?	Ongoing
2	Resonance temperature monitoring	YR	30min-1h	+	4MW, 400us, 1%	Ongoing
3	Laser BL alignment	MG	2d?	+		Done
4	Laser BBA	YR	1-2 shifts	+	LBL aligned	Done
5	Solenoid BBA	MK	3-4 shifts	+	u-mover works	Done*
6	Longitudinal momentum characterization (maxPz, MMMG vs. peak RF power gun)	MK	5-6 shifts	+		Done
7	Emission studies (+charge profile of pulse train → nose in the bunch charge train)	MK, YC	4-5shift+	?	Request from FLASH (S. Schreiber), ?Right after the cathode insertion?	Started
8	Dummy plasma cell (window foil) stress tests	MG	5d+	+	6MW, 100pulses, booster→nominal	Done
9	E-beam asymmetry studies	Igl, MK	?	?		Done*
10	δE : LPS, slice energy spread characterization	MK, J. Zhu		+/-	Request from HH (M. Dohlus, J. Zhu), TDS	
11	BPM commissioning	MK,FT	3-4+	+/-	E-beam, Q~0.5-1nC	Ongoing
12	Projected emittance studies			?	(53MV/m vs. 60MV/m)x(FTvs.Gauss)+TDS	
13	Slice emittance studies	HH		?	TDS	
14	Plasma experiment	MG		?	TDS	
15	Plasma TR	GL			TDS	
16	3DElla commissioning	TR, JG		?		
17	TDS commissioning/characterization?	HH		?		Done?
18	CDS booster studies (dark current)	I.Rybn., Igl		+	no e-beam needed, CDS IL works	Done?
19	Commissioning of res. temp. tool	YR	3 shifts	+		Done?
20	THz related experiments: 4nC	PB	8 shifts	+	EMSY1-3, all screens, TDS, HEDA1,2 (long laser – FT of Gauss)	Done
21	THz related experiments: short bunches	PB	3 shifts	+	TDS available, BSA=3.0mm → homogeneity	

Emittance → PE

NB: trajectory!

PEG500 - Projected emittance studies

11ps Gaussian, 500pC, 60MV/m

	$P_{\text{boo}}=3.5\text{MW}$	$P_{\text{boo}}=2.5\text{MW}$	$P_{\text{boo}}=1.5\text{MW?}$
BSA=1.2mm	+	+*	
BSA=1.1mm	started		
?BSA=1.0mm			

PEFT1000 - Projected emittance studies

~20ps fwhm flattop, 1nC, 60MV/m. $P_{\text{boo}}=3\text{MW}$

S - Overall stability check

- S1. Check all timing settings (after MO manipulations) → shift + FT
- S2. Check laser BBA → shift
- S3. Gun phase and amplitude (uTCA) → YR
- S4. Laser pointing and energy jitter → shift (+laser experts)
- S5. Beam-based gun phase → phase scan and charge jitter
- S6. Beam-based gun amplitude → e-beam at MMMG in LEDA
- S7. E-beam energy jitter in HEDA1 at various gun and booster phases
- S8. TDS stability with e-beam → H.Huck

For gun , booster and TDS WCS stability → shift + J. Schultze