

PITZ Run Coordination

Run-2021-2 / week 5-6

Gun4.2 run

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21.01.2021

2021 Run-2 plan (Week 5/6)

Beam tilt vs bucking

Status 21.01.2021

MBI & PHAROS															
to do:	Measurement							to do:	Measurement						
Week 5	Mon Feb-01	Tue Feb-02	Wed Feb-03	Thu Feb-04	Fri Feb-05	Sat Feb-06	Sun Feb-07	Week 6	Mon Feb-08	Tue Feb-09	Wed Feb-10	Thu Feb-11	Fri Feb-12	Sat Feb-13	Sun Feb-14
Morn. 07:00 to 15:30	Lishilin Startup Check list RF1 check / tuning	Lishilin Alboulbanine	Lishilin Alboulbanine	BPM commissioning				Morn. 07:00 to 15:30	Vashchenko Georgiev	Vashchenko Georgiev	Vashchenko Georgiev	LPS tomo			
Late 15:00 to 23:30	Stability check (WCS@ stabilization)	Slice energy spread Energy chirp scan		Quad calibration?			Late 15:00 to 23:30	Weiibach Adhikari	Weiibach Adhikari	Weiibach Adhikari	THz CTR with modulated Gaussian PHAROS laser (f>0.8 THz)				
Night 23:00 to 07:30	LeCroy scope	Qian Lueangaramw	Qian Lueangaramw	THz high charge beam			Night 23:00 to 07:30	PHAROS shaping			Weiibach Adhikari	Weiibach Adhikari	Weiibach Adhikari	Weiibach Adhikari	
				Krasilmikov Castro-	Krasilmikov Castro-	Krasilmikov Castro-	Krasilmikov Castro-					Boonpompras Aftab	Boonpompras Aftab	Boonpompras Aftab	Boonpompras Aftab
				Lishilin Alboulbanine	Lishilin Alboulbanine	Lishilin Alboulbanine	Lishilin Alboulbanine					Vashchenko Georgiev	Vashchenko Georgiev	Vashchenko Georgiev	Vashchenko Georgiev
				Li Melkumyan	Li Melkumyan	Li Melkumyan	Li Melkumyan		Good Shu	Good Shu	Good Shu				

Main programs

- **THz**: ~1 THz modulated Gaussian laser; High charge beam measurement; THz camera
- **LPS**: tomography; slice energy spread; energy chirp
- **BPM commissioning (RFD.BPMs, PST.BPMs)**
- PHAROS: **dispersion study**; modulation shaping
- LeCroy scope commissioning

Other (minor) programs

- RF2 LLRF tuning (0.5 shift): to tune gun sp to have same beam momentum output, dark current vs. Pz
- Q-train check (1 shift)
- Quadrupole calibration
- Check LEDA modulation vs Lyot filter tuning (0.5 shift)
- High1.ICT1 **baseline jitter** vs scope jitter
- **MBI laser modulation** check
- **Beam tilt** vs bucking solenoid field (backup program for shifts without booster)

Slice energy spread measurements

R12 from EMSY1 to DISP3.Scr1

- Scan 2 steerers--get **R12** from **HIGH1.ST2** to **DISP3.Scr1** and **r12** from **HIGH1.ST3** to **DISP3.Scr1**

- $\underline{R12} = (L1+L2)r11+r12$ and $\mathbf{R12} = (L2)r11+r12$

- By solving 2 equations, we can get R12 from EMSY1 to DISP3.Scr1

- **Procedure**

- **Measure R12 from HIGH1.ST2 to DIPS3.Scr1**

- Record setting of all quads after the slit and degauss them
- Run QuadCalibration.m
- Calibrate HIGH1.ST2 (x-axis) at PST.Scr1
- Restore the setting of quads and then scan HIGH1.ST2 (x-axis) at DIPS3.Scr1 for R12
- Restore the setting of steerers if changed

- **Measure R12 from HIGH1.ST3 to DIPS3.Scr1**

- Record setting of all quads after the slit and degauss them
- Run QuadCalibration.m
- Calibrate HIGH1.ST3 (x-axis) at PST.Scr1
- Restore the setting of quads and then scan HIGH1.ST3 (x-axis) at DIPS3.Scr1 for R12
- Restore the setting of steerers if changed

