PITZ measurements program 2012

first draft

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#	Prio	item	measurements	coordinator	remarks
1		Min emittance for 0.02; 0.1; 0.25;1;2 and 3nC (new)	Slit scan at EMSY1, optimization BSA, gun phase, Imain	MK, GV	Laser flat-top ~22ps
2		Emittance vs. booster gradient	Slit scan at EMSY1	GV	Check low gradient predictions from BDS
3		E-beam temporal profiles with TDS	For different bunch charges, BSAs, laser profiles	DM	TDS has to be commissioned
4		Emission studies	Schottky scans for various BSAs, LT, (+short Gaussian laser pulses?)	MK, BM, JL, M.Rehders?	Benchmarking for simulations
5		Gun and booster stability check	RF and beam based measurements of the phase and amplitude stability	Igl	Resonance accurate check, methods for the amplitude stability ?
6		Emittance vs. laser rt	Emittance optimization at EMSY1	MG, MKh	
7		Emittance vs. temporal Gaussian laser	Emittance optimization at EMSY1	MG, MKh	
8		E-beam trajectory studies	For the symmetric e-beam and best emittance	MO	?BPMs to be re-commissioned (MK)
9		Emittance at Ecath=45MV/m	Emittance optimization at EMSY1	GV, Igl	
10		Emittance along the beam line and tomography	Emittance at EMSY1-3 + cross-check with tomo	GeK, BM, JL	
11		Laser and solenoid BBA	Methodic for XFEL	MK	
12		Slice emittance with HEDA1	Systematic comparison of slit and quad scans for various charges	YeI	
13		Slice emittance with TDS	Commissioning and first measurements	DM, BM	
14		Longitudinal phase space with TDS	LPS measurements with TDS+HEDA2	DM, KeK	
15		Longitudinal phase space in LOW (HIGH1) section	LPS measurements with aerogel in the LOW (HIG1) section + streak readout	MM	Streak beam line alignment before (MM+MG)
16		Slice emittance with HEDA2	Using DISP3.Scr2	KeK	
17		Cathode studies	QE, QE maps	MO, RM	
18		AOM tests	With e-beam	MG	

Program description should contain:

1. Goals and expected experimental results
2. Cathode laser: temporal shape(s), transverse size(s) or BSAs
3. Gun and booster gradients, rf pulse length, operation mode (feedback, etc)
4. Bunch charge(s) and number of bunches to be used
5. Measurement location(s) and methods, diagnostics needed
6. Number of shifts required (estimated)
7. Wish time (calendar week(s)) if it is
8. Could the measurements be conduct by other shift crews?
9. …